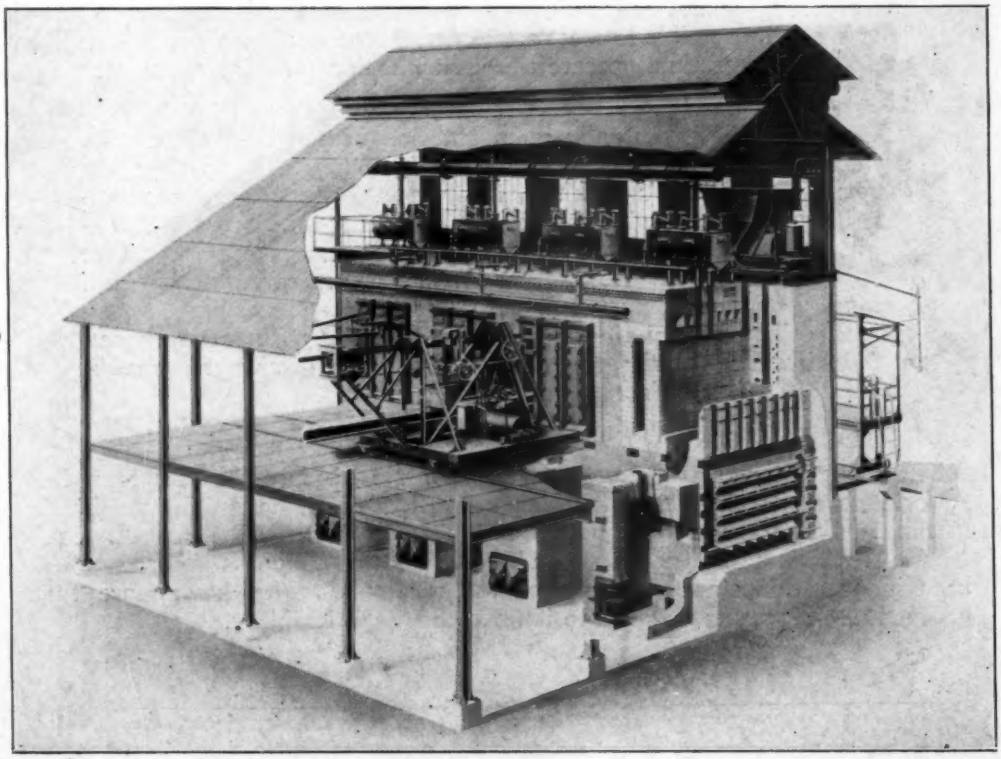
GAS JOURNAL

THE NEW

Complete Coal Carbonizing Plant

Danbury, Connecticut

Equipped with "IMPROVED" Horizontal Gas Ovens



The IMPROVED EQUIPMENT COMPANY

Engineers and Builders

24 STATE STREET NEW YORK CITY

Booth No. 64

Koppers Coal Gas Plants

FLEXIBILITY

"Among the considerations in the plant selection, this question of flexibility of send-out comes first at Battle Creek. To have a carbonization plant of sufficient capacity that could be operated at constant speed is an ideal condition, with its unquestionable benefits in operating results. This we will accomplish in the new plant now in process of erection, which has been designed to use either producer gas made in a central producer, or oven gas, or a combination of both as under-firing, that is, some ovens operated with producer gas and some with oven gas in almost any ratio by a simple valving change in the reversing gear. It is evident that with this sort of flexibility, it is going to be possible to meet any demand load conditions with ease and at the same time operate the carbonization plant at a constant rate. . . ."

"The new plant is virtually an adaptation of the by-product coke oven to small gas plant purposes, the manufacture of a good quality of gas of 550 B.T.U.'s with the ability to manufacture a coke structure of quality or kind comparable to any by-product practice, obtaining the tar and ammonia yields of by-product practice, and that which is so highly important to us—*being able to operate with ideal flexibility by substituting oven gas for fuel gas in varying proportions and if necessary a dilution of the oven gas with producer gas, and finally steaming the coke charge previous to discharge for additional gas at little reduction in calorific value.*"

The above excerpts are taken from a paper read before the Michigan Gas Association by Mr. Holt, of the Battle Creek Gas Company, Battle Creek, Michigan. The plant referred to above is a KOPPERS COAL GAS PLANT. This plant, designed and built by The Koppers Company, has been in operation since January and the results obtained have more than justified all statements made as to its efficiency and flexibility.

THE KOPPERS COMPANY

Designers and Builders of By-Product Coke and Gas Ovens

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American
GAS JOURNAL

Vol. 121 No. 16 NEW YORK—OCTOBER 14, 1924—ATLANTIC CITY, N. J. Whole No. 3486

Gasmen Gaily Gather

Large Early Registration Indicates Record Attendance This Year

Atlantic City, the playground of America, is again the host of the American Gas Association at its Sixth Annual Convention. On Saturday afternoon the delegates began to arrive and now every hotel is full of them.

EXHIBITS

The Steel Pier, where the exhibits are placed, is a beehive of activity. The decorations are pink and green. Bunting of these colors has been hung from the arches, artistically draped, festoons of cedar rope support hanging baskets of pink roses and southern smilax. The effect is beautiful.

The individual booths have been designed with taste and care. Thick, luxurious rugs cover the floor; palms, ferns and potted plants add a touch of color. In most of the displays chairs and divans of wicker or reed, creton upholstered, invite the passerby to pause and linger. Every imaginable kind of appliance and equipment is on display and a visit to the exhibits is in itself an education in all branches of the gas industry.

HEADQUARTERS

The headquarters staff is comfortably located on the second floor front of the Main building. Here Charlie Person, his co-workers and assistants are as busy as the proverbial bee. Courtesy seems to be the watchword of the office. Information is pleasantly given and questions regarding the convention and its various activities are answered promptly and intelligently.

This also is being used as a meeting place for some of the committees and the "big guns" of the Association are in and out every hour of the day.

SOCIAL ACTIVITIES

The Entertainment Committee, of which Wm. J. Clark is Chairman, has arranged a most varied and pleasing program.

On Tuesday evening, 9 P. M., there will be a Reception for the Officers of the Association at the Ocean End of the Steel Pier. Following the reception the delegates and their ladies will dance to the strains of Zez Confrey's orchestra of twenty instruments. This is a Paul Whiteman band and those who have heard him over the radio and in the Ziegfeld Follies of 1923 know that the type of foxtrot he plays will make a Maurice out of a man with wooden legs.

On Wednesday afternoon the ladies will be entertained at a luncheon and card party in the Submarine Grill of the Hotel Traymore.

On Wednesday evening will be held the Public Relation Symposium in the Vernon Room, Haddon Hall. After the Symposium, the guests will be entertained by the Madrigal Singers of Philadelphia with choral selections. When the singers have completed their program the guests will again worship at the shrine of Terpsichore.

The Association has engaged the Globe Theatre for the exclusive use of the American Gas Association members and the ladies for Thursday evening and will present to them a vaudeville bill furnished by the Keith Circuit. Keith vaudeville is known for its excellence in every city of the United States and the delegates have two hours of song, dance and comedy in store for them.

This ends the Social Program.

MEETINGS

The first general meeting will take place Tuesday morning at ten o'clock. President J. B. Klumpp will deliver his address and the Convention will be on in earnest. Every morning and afternoon will find each delegate attending the gathering of the section in which he is most interested. As more than four thousand delegates are expected this year, all of the meetings should be well attended and the discussions interesting and instructive.

One of the most important subjects to be discussed will be that of passing on to the consumer the benefits of the marked progress which the gas industry has made during the past year.

Believing that many problems of the gas industry are matters of local and domestic importance, a considerable portion of the convention's time will be given to sub-

jects in which the home owner and apartment house dweller have a personal interest.

"High Pressure Distribution," "Advertising," "Customer Ownership," "House Heating" and "Public Relations" will all come in for lengthy debate, following papers which cover each subject thoroughly.

Association and others.

The program of all the sections is full of important and interesting addresses, papers, reports, etc. For the first time this year the program of the Technical Section is divided into three separate parts on Thursday afternoon. The Chemical Division will hold its own session, so will the Distribution Division and

Accounting Sections. This is also a matter that commands the attention of the gas industry.

The education of the gas man, not only the industrial engineer but of all gas employees of the gas company, will be gone into in detail in the meetings. This matter is closely allied to the compensation of the gas man and special attention is

Some of the prominent speakers this year will be Martin Insull, president of the Middle West Utilities Company of Chicago; Charles A. Munroe, chairman of the board of the Laclede Gas Light Company of St. Louis; Frank LeRoy Blanchard, publicity director of Henry L. Doherty & Company; Leonard Ormerod, vice-president of the Public Utilities Advertising

the Manufacturing Division.

Particular attention will be given in the meetings of the Technical and the General Sessions to the value of research in the gas industry. This is an important subject for the gas industry is reaching a state where it requires more and more information all the time. The value of statistics is also to be emphasized in the meetings of the

going to be given to this matter by the Industrial Gas Section. The latter Section will also hear reports on various Industrial Booklets which are being prepared or have been prepared along the same lines as the one recently issued on House Heating. Another important paper to be read before the meeting of the industrial gas, the work being done by the manufacturers of

equipment and the correlation of this work with that which the gas companies themselves are doing to further the cause of industrial gas.

In the General Sessions there will be many papers of general interest to all gas men. Customer ownership will receive much attention, as well as the financial and publicity side of the gas business. The matter of testing of gas appliances in a centralized laboratory is also a subject of vital importance which will be discussed in the meetings.

Many interesting papers will also be read in the meetings of the Commercial, Manufacturers' and Publicity and Advertising Section Meetings.

All in all there is much to see, much to hear and plenty to take home with you. If you don't get it, it's your own fault.

First Business Meeting of Convention Well Attended

Manufacturers' Section Holds An Interesting Meeting

The business side of the Sixth Annual Convention of the American Gas Association was started yesterday when the Manufacturers' Section went into session at the second floor auditorium at the Boardwalk end of the Steel Pier.

Notable in the meeting of the Manufacturers' Section was the evident note of harmony throughout the field. The business of the meeting went off like clockwork with practically no floor discussion to denote an unsatisfactory condition anywhere. From the opening remarks of George W. Parker, outgoing chairman, to the adjournment motion, the attendance listened carefully and with evident approval to the remarks of the succession of programmed speakers.

Eugene E. Basquin, of the Surface Combustion Company of New York City, vice-chairman during the past year, was selected unanimously to succeed Mr. Parker, who is an executive of the Parker-Russell Mining and Manufacturing Company of St. Louis, as chairman of the section for the coming twelve months.

As the session was about to end Mr. Basquin addressed the gathering and promised those present an industrious year on his part as chairman and particularly requested that the members of the section council make every effort to attend the series of meetings that were contemplated for the coming year, when any knotty problems facing the group would be worked, he was sure, to the satisfaction of all concerned.

Two regrettable announcements had to be made during the programme of paper presentations. W. M. Fowler of the Lovekin Water Heater Company of Philadelphia, who was to have delivered the report of the Water Heater Division, was reported seriously ill with typhoid fever, his brother having communicated this information to the chairman. Walter Whetstone of the Selas Company of Philadelphia, who was to deliver a paper for the Industrial Appliance Division of the section, was also forced to be absent because of the death of his brother-in-law within the past few days.

The classification of house heating and its various branches, either under the Manufacturers', the Industrial or the Commercial Section, aroused some comment and difference of opinion, but there was no definite effort to remove it from this section though house heating will necessarily be taken up by the others in their meetings during the week.

In opening the session, which began promptly at two o'clock, Mr. Parker spoke of the work of liaison which had been carried on by the council during the past year and thanked the officers who had worked with him in carrying out this task. He remarked the excellent condition in which the manufacturers' end of the industry found itself—one of expansion—and expressed the feeling that in turning the office of chairman over to his successor, the section would find that the coming year like the past would be one with which none could find fault.

Aside from the two expections already noted, the reports of the Division Chairman were read without comment from the body of the section. H. A. Wilson of the H. A. Wilson Company of Newark, N. J., as Chairman of the Accessories Division, read a short report from his group, denoting satisfactory progress. He was followed by S. E. Fairchild, Jr., of the Cruse-Kemper Company of Ambler, Pa., who, as chairman, read the Apparatus and Works Division's report. Investigation and examination had been carried on throughout the year and unfinished work was being turned over to the group which would take up a continuation of the investigations this fall.

Charles T. Aaron of the Walker & Pratt Manufacturing Company of Boston, Mass., Chairman of the Gas Range Division, read a rather lengthy paper, and was followed by Thompson King of the Peerless Heater Company of Pittsburgh, Pa., whose remarks as Chairman of the Heating Appliance Division, were quite brief. Townsend Stites of the Welsbach Company of Gloucester, N. J., Lighting Appliance Division Chairman; J. D. McIlhenny, Jr., of Helme & McIlhenny, Philadelphia, Meter Division Chairman; E. A. Norman of the Elliot-Fisher Company of New York City, Office Labor Saving Device Division Chairman, and J. J. Greene of Johns-Mansville, Inc., New York City, also read brief reports.

The Big Show At the Pier

By An Outsider

On the Steel Pier yesterday there was to be seen, felt and heard the expression of the genius driving forward with accelerating strides the giant industry of Gas. Likewise the high stewards of the affiliated or accessory trades brought forth to the annual accounting their concrete illustrations of the march of progress they have shown the United States, and the world indeed, since the American Gas Association and its auxiliaries set out upon the golden highway of cooperation.

To the 1924 exhibition of the A. G. A. there came with the finished fruits of brain and brawn nearly 170 exhibitors, to show these marvels and to explain their virtues for the profit and instruction of those from all corners who, like the writer hereof, have so much yet to learn about a business that means such volumes to the national wealth and prestige, such sustenance to the all successful industry and such surcease of toil to the tired housewife.

The visitors noted a bewildering variety of displays appealing to their imagination, to their sense of appreciation for painstaking achievement and to their pride in the consciousness that the wonders wrought by the manufacturers of gas and of the metallic agencies for its use were the triumphs of American capitalists and engineers.

A lure that led so many inside the doors of the exhibition halls was the display of a series of paintings by F. L. Stoddard, in vivid tones and blazing conceptions, forming what might be named the Pictorial Epic of Gas. These images were irresistible. Folks went, they saw, they were intrigued and they stayed long to marvel.

Even the almost wholly educational and promotional phases of the booths held out something to touch the imagination. (Item: the dumb but eloquent figures showing that a single public service in a single State had swollen its sales of Gas by nearly Three Billions of cubic feet since 1920—and had performed other feats in expansion that made the head swim to ponder them.)

Many great and magic names in the factory firmament appeared on the list of exhibitors and were draped tastefully as well above the booths in the harmonious uniform design made mandatory by the Association. The bigger hall where this miniature world fair is going on, banked high with evergreen trees and streamers too, and strung with myriad electric bulbs, made a festive stage setting for the glorification of Gas.

Flames of it spouted or glowed here and there from pipes to help tell the mystery of the latest machinery on the market. Pipes themselves, in all sizes and shapes, invited inspection. Castings, gauges, meters also. Huge coal crushers. Movie cameras attached to new motors and showing the picture of the motor working along with the motor itself. Gas heaters, all styles and sizes. Girls cooking sweets now and then and asking you to have a nibble.

Now we come to the story of coal mining as set out with working models and pictures and lay figures by the United States Bureau of Mines.

As for stoves—stoves to the right of us, cookers to left of us, with the lecturers telling the latest tricks of the trade. How many gas ranges in the United States and how many electric cookers? My question to one of the leading demonstrators got the answer that he thought about three gas to every one electric, but it would be better to ask the statistics folks. (Couldn't get time to do that—everybody wanted to tell his story.)

Perhaps the most amusement came out of the Charliechaplinesque animated figure of a silent salesman who nevertheless moved his lips and wiggled his eyebrows, the while showing his teeth so affably and bowing quite engagingly. His hands came up now and again with cards telling the merits of his goods.

One stove man held me half an hour and did not have to clinch the lapel either. He has a chain of six factories to boost, and he is equal to the feat. One thing his big concern does is to make all its salesmen cook anything in its cookbooks, which are used in many domestic science schools. A green one came on recently and he was told to take the range and the formula for angel cake and bring back some of that delectable stuff at the right time. He did not know how to boil an egg—but he did stick to orders like a brave soldier and came home with the angel cake.

Another Napoleon of the kitchen monarchy threw a light on the question of American prosperity. He showed a black and white enamel range, and one all enamel. Same style and capacity—same article, save for the extent of the white enameling. The white one, $350, the mixed colors, $150. "And yet," said he, "nine out of ten women take the higher-priced one because it matches most of the good sinks, etc. There is a fashion change now almost every year in stoves as well as dress, and we have to step along with it, and step lively."

Every inch of space is in use for the extraordinarily interesting show. It is a trade success of collossal proportions. That is plain. Everybody here is pleased. And as a popular drawing card on the night the public is free to enter its chances are very bright on one account among others. That is the sidewalk show window exhibition of Stoddard's pictures—especially the one with the enchanting figure of Aladdin stretching out his magic gas lamp over the stooping figure of a woman getting the evening meal. "The Dream of the Drudge" is an industrial classic.

Five Live Wires In the Gas Industry

H. H. GANSER
Norristown, Pa.

C. A. JEFFRIES
Toronto, Can.

JAS. M. BENNETT
Philadelphia, Pa.

BURTON SMART
Portland, Me.

J. ARNOLD NORCROSS
New Haven, Conn.

What Johns Hopkins Has To Offer the Gas Man

Need of National Support for Undertaking Emphasized

By E. L. Rieha

The courses in gas and fuel technology at Johns Hopkins University have now been inaugurated through the efforts and support of the Southern Gas Association and are available to all men interested in the gas industry in the United States.

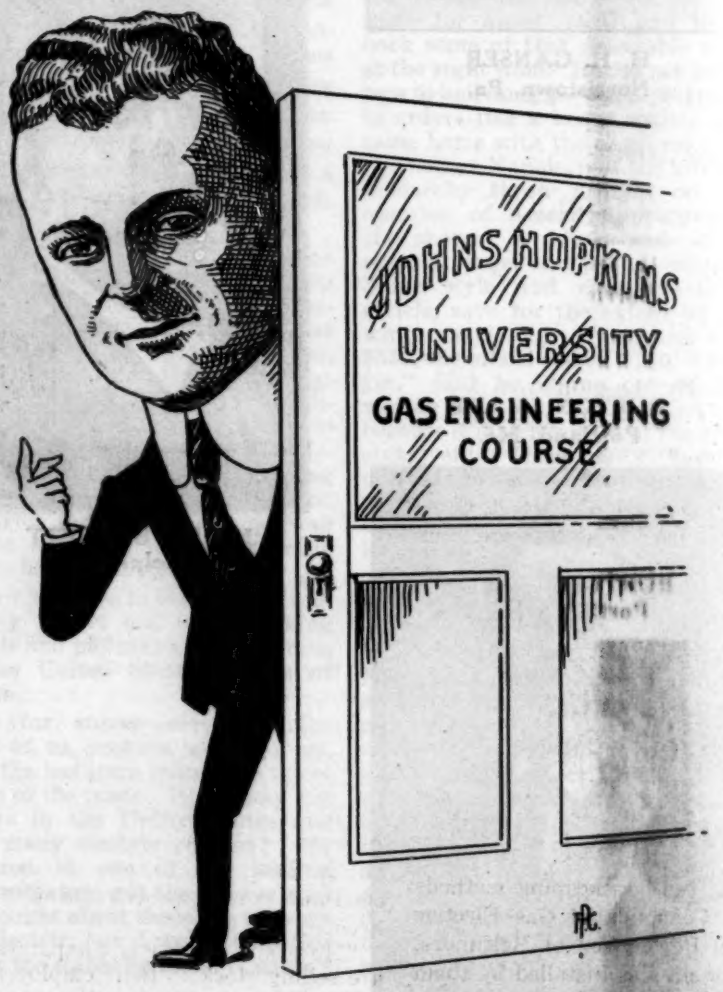
The courses offered the undergraduates will deal with the fundamental, physical and chemical principles involved in the manufacture of coal gas, water gas, oil gas, and producer gas; their purification, distribution and the commercial preparation and disposal of the by-products. Special emphasis will be placed upon those quantitative relations which determine design and economic operation.

Gas and by-product coke plants will be visited, and the practical phases of manufacture and distribution will be considered in special lectures to be given by men prominent in the gas and fuel industry. Students will be given problems in plant layout, unit design and will collect construction and operation cost data. In the laboratory, they will be required to examine coal, coke, gas, oil, tar and ammonia products, and will make plant tests for the determination of efficiencies and costs.

An unusual feature of all of the undergraduate instruction in engineering at Johns Hopkins is a course of lectures on "Engineering Practice." These lectures are given by practicing and operating engineers, and are open to the entire undergraduate body. To mark the opening of the courses in gas engineering in 1924-1925, particular emphasis will be given this subject. The four years undergraduate course leads to the degree of Bachelor of Engineering. Such graduates, because of their preliminary acquaintance with the gas and fuel industry and the conditions existing therein, should be more contented, thereby eliminating much of the usual labor turnover.

Where possible, the undergraduates will be encouraged to continue their studies in the graduate courses. These courses are planned to develop fitness for independent study and investigation and offer opportunities for research and experiment in the solution of problems in gas engineering. And especial effort will be made to maintain intimate contact with the various gas and fuel industries with the hope that such research may be carried out on a co-operative and mutually beneficial basis.

The advantages accruing to the industry through the medium of such trained personnel should not be confined to its manufacturing and distribution operations. Men so trained should form an excellent nucleus for the development of sales engineers and executives



Edward Rieha Opening the Door of Opportunity to Gas Men

who must meet competition and develop production in a technical and constantly advancing field, particularly in the application and uses of industrial gas, and in general its efficient utilization and sale for large scale power and heating purposes.

The initiation of this work at Johns Hopkins University is being fostered by the Southern Gas Association, but its advantages are open to any one who may be interested. The problems presented are national, and to attain its true measure of service, the work MUST HAVE NATIONAL SUPPORT. This particularly over the pioneering period when students are few. Time will be available for fundamental research of value to the ENTIRE GAS INDUSTRY, and it is hoped that such research and direct service may be initiated and carried out in conjunction with the American Gas Association.

Accounting Section Has Fine Exhibit

Bookkeeping Without Books Clearly Demonstrated

One of the most attractive as well as interesting exhibits on the Steel Pier this year is that of the Accounting Section of the A. G. A. The space used is quite large, four booths being required to house the display. Paul D. Warren of The Peoples Gas, Light and Coke Co., Chicago, who is Chairman of the Exhibit Committee of the Accounting Section is in charge.

"'Bookkeeping Without Books' or 'The Coupon System,' as some people call it, is gaining friends month by month," said Mr. Warren. "Last year our exhibit consisted of the bookkeeping methods of The Consolidated Gas Electric Light & Power Co., of Baltimore. This system was installed by them in 1917 or 1918 as an emergency measure and proved so satisfactory that it was retained. Many of the delegates attending last year's convention saw the exhibit, but thought it was purely a large company system and could not be profitably used by a small gas company. Therefore this year we are exhibiting the systems used by two of the smaller companies, one in Allentown and one in Bethlehem, Pa. The exhibit shows the amount to be saved in operating costs, the quickness with which bills are rendered and the correspondingly quicker collections."

In this booth also is to be seen many charts, forms, etc., of vital interest to the commercial gas man. Standardization of printed matter, tests of the strength of paper, fewer forms and more elasticity, and in fact every phrase of the accountants, work has been thoroughly covered.

"More and more gas companies are selling stock to their employes and to the general public than was formerly the case," continued Mr. Warren. "We thought it wise, therefore, to select a satisfactory and successful campaign method and let the gas men of the country see it. The Public Service of New Jersey were kind enough to furnish us with all of their literature. We show form letters, system of accounting in stock sales, booklets, reason why copy and calendars showing dividend days."

These Days Are Busy Days Says "Charlie" Persons

Any company selling stock can not afford to miss this exhibit. The Accounting Section is to be congratulated upon the excellence of its exhibit and the simplicity, yet thoroughness, in which they have presented this important, yet rather commonplace, subject.

Home Service Committee to Meet Tuesday, October 14th

There will be a meeting of the Home Service Committee of the American Gas Association at 1.45 P. M., Tuesday, October 14th, in the sun parlor of the convention hall, on the Steel Pier.

Gas Business Making Steady Progress

Report of Secretary-Manager Reviews All Activities for Past Year

By Alexander Forward

The American Gas Association has finished another year of service to the industry and therefore to the public, marked by enlarged membership in all classes, continued loyal, moral and financial support, and, we believe, great usefulness.

The position of the gas industry in the organization of American life could hardly be stronger or present a more favorable outlook for the future. The gas business today is a good business. Its public relations are on a better footing than ever before. Its public regulation is more reasonable and based upon sounder principles than at any time since regulation began. Its securities command confidence in the financial markets of the world.

STEADY PROGRESS IN INDUSTRY

A sketch of the important items in the statistics of the industry for 1923, as compiled and analyzed by the Association's statistical department, demonstrates that during last year the industry continued to enjoy the steady march of former years. The total gas produced and purchased for public distribution in 1923 was 418,000,000,000 cubic feet. For the first time we crossed the mark of 400,000,000,000 cubic feet in a year.

It is interesting to note that of the gas actually manufactured in the plants, approximately 74 per cent is carburetted water gas, 19 per cent is coal gas, and approximately 8 per cent is oil gas. The coal gas manufactured shows an increase of about 6,000,000,000 cubic feet over the 1922 figure, while the carburetted water gas manufactured in 1923 shows a gain of approximately 8,000,000,000 cubic feet over 1922. Carburetted water gas seems, therefore, to be more than holding its position. This is, of course, due in part to the increase in some cities in house heating and similar loads, creating a peak load carried by additional water gas equipment. Due to the trend toward a lower content of British thermal units and to increasingly efficient methods, we are using proportionately less oil, thus aiding conservation of natural resources in this direction.

INCREASE IN COKE OVER GAS

An important feature is the marked increase in coke oven gas purchased and mixed with manufactured gas for city use. In 1921 the amount of this gas purchased was 37,000,000,000 cubic feet; in 1922 this figure increased to 55,000,000,000 cubic feet and reached approximately 66,000,000,000 cubic feet in 1923—or about 8,000,000,000 cubic feet more than the coal gas manufactured for that year. This represents an increase of approximately 80 per cent between 1921 and 1923.
and 1923.

If this purchased coke oven gas is added to the coal gas manufactured, the combined 1923 figure will show an increase over 1921 of approximately 25,000,000,000 cubic feet as against 24,000,000,000 cubic feet for carburetted water gas—and a percentage increase of 25 per cent as against 11 per cent. From this standpoint the anticipated trend toward the increased use of coal gas is justified. However, these figures clearly show the strong position both of coal gas and of carburetted water gas.

GAS INDUSTRY USING MORE COKE

In considering the raw materials used for the manufacture of gas it is interesting to note that in 1921 the ratio of coke to anthracite coal used for gas manufacture was as 57 to 43, whereas in 1923 the ratio was as 75 to 25. Coke is a product second only to gas in importance to the industry and its increasing use in our own manufacturing processes will be welcomed by all gas men. Of the coke used in 1923 40 per cent was coke made by combination coal and water gas plants as a by-product of their coal gas manufacture and used as a generator fuel in their water gas machines. Such control of an essential raw material is a factor of strength for any industry.

GAS SALES

The total annual sales of gas for the year 1923 are reported as a little over 384,722,000,000 cubic feet, an increase of approximately 9.87 per cent over the annual sales in 1922. A comparison of the 1923 sales with the gas produced and purchased for the same year indicates "unaccounted for gas" of approximately 7.94 per cent as compared with 9.18 per cent in 1921, the last year for which official statistics were published by the Association. This reduction in gas unaccounted for is probably due not only to increased efficiency but to the increase in the amount of coke oven gas purchased.

Our sales in 1923 were more than double the annual sales for 1913—the increase in sales for the ten years more than equaling the total output for the year prior to the outbreak of the World War. In this decade the sales of manufactured gas practically equal the total sales of gas during all of the preceeding forty years.

INCREASE IN INDUSTRIAL GAS

The analysis of sales according to uses indicates that 24.02 per cent of the total sales for 1923 (or

slightly over 92,000,000,000 cubic feet) were used for industrial purposes. In 1921 the industrial sales represented 21.62 per cent of the total, or a little over 70,000,000,000 cubic feet. In two years therefore our sales for industrial purposes have increased by nearly 22,000,000,000 cubic feet, a ratio of increase of 30 per cent. It has been stated that our sales for 1923 are double those for 1913. It is interesting to note that the industrial sales for 1923 represent 47 per cent of this increase, as the sales for industrial purposes in 1923 were practicably negligible.

An attempt was made to have the companies segregate their sales for househeating but so few were able to do this that no effort was made to estimate this figure for the industry. It is realized therefore that the total sales reported in 1923 for domestic uses (72.41 per cent or more than 278,000,000,000 cubic feet) includes not only the cooking and lighting load but the heating load as well, exclusive of industrial heating. This would include the househeating load, both central househeating and auxiliary heating, and it is hoped that next year our companies can be in a position to segregate and determine the percentage of our sales which are devoted to this very important purpose. Certainly it has been an encouragement to our members interested in industrial fuel to be able to indicate how materially this form of utilization is increasing our sales.

NEW CUSTOMERS AND METER INSTALLATIONS

In 1923 the gas industry placed 417,000 new customers on its books and connected up 428,000 additional meters. Approximately 3500 miles of additional mains were added to our distribution systems.

AFFILIATED ORGANIZATIONS

The Association has closely and with increasing results continued the work so auspiciously begun a year earlier of bringing the national organization in closer and more intimate touch with the affairs of the state regional gas associations throughout the country.

In this connection it is gratifying to note that through the activity of the Southern Gas Association a chair in gas engineering has been established at Johns Hopkins University in Baltimore with financial pledges to guarantee its continuance for at least five years.

PUBLICATIONS

Close attention has been paid to the regular and special publications and judging from the expressions of opinion they are regarded by the industry generally as of marked value. It is our aim to get the more important current news of the industry into the hands of our membership through means of the Service Letters.

STATISTICS

Each year since the organization of the Association has witnessed a growing cooperation on the part of gas companies and manufacturer companies in furnishing to Headquarters detailed information concerning the operations of the industry. Individual figures are, of course, not published. To the Association's staff has recently been added a statistician, working under the direction of a committee of the staff, by which means we propose to make our statistical department a growing factor. To this end we shall need the sympathetic support of all our members.

ACCOUNTING SECTION

As its chief activity in 1924 the Accounting Section has had prepared a splendid report on the Analysis of Gas Company Statistics by a committee composed of statisticians from our largest holding companies. This report accentuates the importance to the individual gas company of developing statistical records. The Committee will be continued as an Advisory Board to assist Association Headquarters in the development of national statistics. Recognizing the importance of supplying prompt and reliable statistics on the development of the industry, this work is being reorganized at Headquarters under the supervision of the Secretary of the Accounting Section and the Committee on Analysis of Gas Company Statistics and additions have been made to the statistical department of Headquarters to secure more prompt publication of statistics.

COMMERCIAL SECTION

By far the most outstanding effort of the Commercial Section during this year, and we are told the most constructive and helpful service ever offered through the Association to the men engaged in sales development work in the gas industry, has been the Monthly Sales Service, which Service at the time of this Convention will have been running for a period of six months; a time sufficiently long to now warrant statement that it has been a pronounced success and is meeting a need in the industry. There are over 750 subscribers now taking the Service regularly. I would recommend to those companies that are not receiving it to give the matter their early and favorable consideration.

An important and ever growing activity of the Commercial Section is that of the Home Service Committee which is continually putting before the member companies the strongest possible arguments for the organization and operation of Home Service Departments as part of the sales activities of gas companies.

WINDOW DISPLAY

Another phase of merchandising activity which has not been given the attention its importance deserves by our industry is the matter of window and showroom display. We seem to be behind the general run of American business in the matter of display work. There is no question but that window displays are a very important factor and adjunct in the matter of sales development.

INDUSTRIAL GAS SECTION

Under the auspices of the Industrial Gas Section a series of booklets is under preparation at Headquarters. The first, that of House Heating, was published August 1st and about 500 copies have already been sold. About 10 manufacturer company members are furnishing purchasers with loose leaf catalogue sheets. The second of the series, that on Combustion, is ready for this Convention, while the third on Wholesale Baking is in the hands of the printer. Work on the remainder of the series is in progress.

Under the auspices of the Indus-

trial Gas Section the Association had an exhibit at the Steel Treaters Convention in Boston, September 22-26, in charge of our Service Engineer.

MANUFACTURERS SECTION

The Manafacturers Section, now at the highest level of membership, speaks for itself very largely in the wonderful exhibit at this Convention. It will be noted that our facilities have been greatly improved this year through the action of the Association in inducing the owners of this Pier to put in permanent roofing, thus affording complete protection from the weather.

The Pier authorities are also planning to heat the Arcade section of the Pier by means of gas fired steam radiators. We are cooperating with them to the extent of laying our gas lines so that they can be left in for their future use.

PUBLICITY & ADVERTISING SECTION

An example of how the Association is reaching out into quarters where a friendly contact established now will be increasingly beneficial to the industry in the future, is illustrated in striking degree in two specific accomplishments made by our Publicity and Advertising Section.

In the course of a few months this Section has caused the investment banking houses and the financial press of America to look to Association Headquarters for up-to-date and authentic financial information on the manufactured gas industry. At the same time, the Section has written pamplets and other publicity matter for the guidance of investors in gas company securities and the most thorough distribution of this literature has been made by the banking and brokerage firms themselves, with splendid results.

TECHNICAL SECTION

Under authority of and appropriation by the Executive Board, the Committee on Measurement of large Volume of Gas has just completed a series of tests to determine the relative accuracy of large volume meters including such types as the Standard Orifice Meter, Pitot Tube, displacement mters, Venturi Tube and Thomas meters. The results of these tests will be particularly important to companies purchasing large volumes of coke oven gas and in connection with the metering of large volume industrial sales.

GAS STANDARD REGULATION

Headquarters cooperates when the opportunity is afforded with State Commissions in the preparation of their regulations for gas standards and service.

During the year the Executive Board approved the Manual of Committee Procedure prepared by Headquarters staff and revised by a committee of our past presidents. It is invaluable in tieing in the work of our committees and in avoiding duplications.

THE STAFF

With regret announcement is made of the resignation of Mr. Louis Stotz, Assistant Secretary-Manager of the Association and Secretary of the Commercial Section, which was effective October 1. The Executive Board has adopted suitable resolutions referring to Mr. Stotz's long record of efficient service.

I desire to make acknowledgement of the loyal and intelligent support and cooperation given during the year by my two assistants, Mr. Stotz and Mr. Sellman, by the other secretaries, Messrs. Hartman, Person and Berghorn, by Mr. King, our Service Engineer, by Mr. Scofield, editor of our publication, by Mr. Geo. G. Ramsdell and by all others at Headquarters. I would be remiss indeed in making these acknowledgments did I fail to record the sympathetic and invaluable assistance I have received at all times from our President, Mr. Klump, from my predecessor, Colonel Fogg, and from those men in our industry, including section officers and committeemen, with whom I have consulted and who have given me so freely of their time and their judgment.

Educational Work Featured By Illinois Gas Association

In co-ordination with other State Associations and Utilities, the Illinois Gas Association has been active in co-operation with educational institutions of the State, and there has been established in two of the larger universities a course in Public Utilities.

The University of Illinois, in co-operation with the Illinois Gas Association, held its first Short Course for Gas Metermen. This course was well attended and pronounced a success.

The Illinois Gas Association has made a study of and collected data in connection with the Heating Value Standards. The Illinois Commerce Commission now has the matter under advisement.

Where the Exhibitions Are Located and Convention Meetings Held

Brooklyn Union Men Entertained at Company Banquet in Hotel Traymore

The Brooklyn Union Gas Company delegation to the American Gas Association Convention, now in session here, had a company banquet at the Hotel Traymore last night. The beautiful Belvidere Room was used. All of the Brooklyn Union Gas Company representatives at the convention attended. Some were present with their wives. The dinner was held in a private dining room. Favors were provided for the ladies and little mementos for the men.

L. S. STILES

Mr. John H. Waldron, of the Apollo Glee Club of Brooklyn, and one of the staff of the Brooklyn Union Gas Company, rendered several solos. There was singing by the diners and a musical program was given by an Atlantic City orchestra.

After the dinner, the party broke up and made a tour of the resort, some going to the theatre.

Among those present were: Mr. and Mrs. C. C. Aspinwall, Mr. and Mrs. C. C. Atwood, Mr. and Mrs. E. J. Bartel, Mr. and Mrs. John I. Blanchfield, Mr. and Mrs. George R. Bradley, Mr. and Mrs. Edward Cattell, Mr. and Mrs. J. Percy Conklin, Mrs. J. M. Cremer, Mr. and Mrs. George M. Kirchmer, Mr. and Mrs. Walter Kunze, Mr. and Mrs. Theo. B. J. Merkt, Mr. and Mrs. Robert H. Staniford, Mr. and Mrs. Clifford E. Paige, Mr. and Mrs. F. B. Parke, Mr. and Mrs. Thos. P. Payne, Mr. and Mrs. William Percival, Mr. and Mrs. Edward J. Shields, Mr. and Mrs. L. S. Stiles, Mr. and Mrs. Edward C. Uhlig, Mrs. Alice F. Waldron, Mr. and Mrs. C. H. Young, O. J. Aumuller, H. Behrman, M. Elton Brown, R. W. Bush, Hal C. Cannon, E. A. Cantwell, C. O. Chichester, G. S. Cremer, H. E. O. Dembke, J. C. Devlin, Jackson Duff, Herman F. Ford, Geo. W. Gatehouse, Richard E. Gier, A. R. Gledhill, R. L. Greene, H. M. Harriman, James F. Howley, J. Jares, H. P. Kirkham, R. C. Lewis, A. V. Luderman, J. W. Martin, S. A. Mills, E. J. Murphy, William F. McDonald, H. E. McGowan, Joseph W. Piatt, J. F. Quinn, E. F. Reardon, R. M. Riley, J. C. Robbins, C. A. Rodd, George Saunders, Timothy J. Shea, J. P. Stagg, F. D. Tansey, R. B. Underhill, C. W. Waddington, John H. Waldron, F. R. Wogan, O. C. Woller, R. P. Berry, Prescott B. Wiske, R. D. Berry.

The Home Service Exhibit Has A Large, Efficient Staff

The following people will be in charge of the Home Service Exhibit in the Sun Parlor of the convention hall. Entire exhibit is under the supervision of the Home Service Committee of the A. G. A.

Following members comprise the committee:

Ada Bessie Swann, chairman, Public Service Electric & Gas Co., Newark, N. J.

R. J. Canniff, Central Hudson Gas and Electric Co., Poughkeepsie, N. Y.

Philmer Eves, New Haven Gas Light Co., New Haven, Conn.

F. L. Marshall, Gas Light Co. of Augusta, Augusta, Ga.

R. A. Gordon, Blackstone Valley Gas & Electric Co., Pawtucket, R. I.

Luella M. Fisher, East Ohio Gas Co., Cleveland, Ohio.

Edith M. Lloyd, the United Gas Improvement Co., Philadelphia, Pa.

Marjorie Pidgeon, Brooklyn Borough Gas Co., Coney Island, N. Y.

Ethel A. Conklin, Consolidated Gas Co. of N. Y., New York, N. Y.

Dorothy D. Buckley, Connecticut Agricultural College, Hartford, Conn.

Mildred Maddocks Bentley, Good Housekeeping Institute, New York, N. Y.

C. R. Miller, Portland Gas Light and Coke Co., Portland, Oregon.

P. D. Warren, People's Gas Light & Coke Co., Chicago, Ill.

Girls in attendance:

Tuesday, October 14 — Miss Gorham, New Haven.

Wednesday, October 15—Miss Pidgeon, of Brooklyn, and Miss Rowe, of Poughkeepsie.

Thursday, October 16—Miss Gorman, Chicago, and Mrs. Lloyd, of Philadelphia.

Friday, October 17 — Mrs. Fisher, of Cleveland, or Mrs. Bennett, of Cleveland.

Thursday Night The Big Night

Noted Performers Being Sent From New York To Entertain Gas Association Delegates

Theatre lovers, and all of us are, have a treat in store for them this week. The Entertainment Committee is presenting a vaudeville bill at the Globe Theatre on Thursday evening, the like of which is seldom seen. Every act on the bill is a headliner and all of them have recently played the Palace Theatre in New York, the premier vaudeville house of the United States. This, in itself, is a proof of the ability of every performer.

Knowing this, a delegate would be unwise to wait until the end of the week before securing the small bits of cardboard which entitles him to a seat.

Tickets are on sale at the Entertainment window of the Registration desk. There will be no reserved seats.

The officers and their ladies will occupy the boxes and the evening will be the highlight and the tip-toppest top of the social activities.

Glance at the following program and then hurry for your tickets.

GLOBE THEATRE

Thursday Evening, October 16, 1924

PROGRAM

1	**OVERTURE**
2	Three Boys Who Are Different **WHALEN, NOLL AND KENNY** Present Their Original Series of Comedy Songs
3	He Is Not What He Seems to Be **JACK LA VIER** "All In a Spirit of Jest"
4	The Charming Harpist and Singer **MISS ANN GRAY** Will Entertain With a Select Repertoire of Melodies
5	Just Returned from a Three-Year World's Tour **IVAN BANKOFF** The Dancing Master with **BETH CANNON AND COMPANY** Offering Dancing Novelties That Are Absolutely New
6	The Master Mind of Modern Mystery **DUNNINGER** The Man Who Read the Mind of "His Royal Highness, the Prince of Wales" Will Give You All Something to Think About
7	Stars of Two Families **Gordon—DOOLEY AND MORTON—Martha** In New Comedy Songs and Dances—Special Songs by **CLARENCE GASKELL** Direct from B. F. Keith's Palace Theatre

Performance Given Under the Direction of Private Entertainment Department, B. F. Keith Theatres, Palace Theatre Building, New York City

Personal Supervision of .....Miss Frances Rockefeller King

The Go-Getter

The Go-Getter goes till he gets what he goes for;
The Go-Getter works till he reaps what he sows for.

He fixes a goal and resolves when he sets it,
The way to a goal is to go till he gets it.

The country is crowded with weakling diminishers,
And plastered with want ads for resolute finishers.

It's easy enough to start things with a roar,
But hard to keep pulling when biceps are sore.

The pushers are legion who push to begin,
But pushers are rare who will push till they win.

The booster we need is the one who will boost
Till the cattle come home and the hens go to roost.

There's many an auto equipped with a starter
That starts up to the hill like the charge of a Tartar!

But soon it is found to have also a stopper;
The auto for us is the one with a topper.

The highway of life has a hundred who peter
To one who will stick and become a repeater.

To seer and dreamer the world is a debtor,
But passes its handsomer gifts to the getter.

The Go-Getter goes till he gets what he goes for;
The Go-Getter works till he reaps what he sows for.

He fixes a goal, and resolves when he sets it,
The way to the prize is to go till he gets it.

—Robert Bruce Thurber

Full Program of Work Ahead For Michigan Gas Association

President Grey Has Many Plans For the Year

The program of the Michigan Gas Association is well established and this year will probably see no radical innovations in our efforts. The officers will continue to watch and study all steps in the development of our industry and as they appear to have merit, they will bring them to the attention of the membership.

We have been conducting for a good many years a course of research in gas science at the University of Michigan. Each year the association has appropriated a substantial sum of money for this purpose, and the achievements have contributed much to the knowledge of our business. The last two years we have been working on phases of complete carbonization of coal. The program will be continued under the active direction of Professor Alfred H. White, head of the department of chemical engineering.

The gas association will continue to watch coal movements and freight rates, for the protection of its members and will cooperate, if necessary, with allied groups in this respect. It will also fall in with all portions of the American Gas Association program of activities which may have a value in this state.

We also expect to continue our established program of public relations. Our association is interested in the work of the Michigan public utility information bureau and is one of its chief financial supporters. Through it we expect to clear, as we have done in the past, matters of advertising and good-will building which can best serve our common interests.

Two years ago we decided to join with the Michigan Electric Light Association for the holding of our conventions. This we have done without losing our identity in any degree or having to modify our program of activities. The union of the two groups for the purpose of holding annual meetings has worked out very satisfactorily. We have more to offer our delegates and guests as the result of this combining of forces and expect to continue the practice.

The Michigan Gas Association will, during the coming year, be prepared to serve its members in the working out of any problem in their business, and we will no doubt be called upon to do so in many cases. In the past we have been frequently requested to develop discussion and ideas on such matters as coke sales, coal purchases, merchandising and service problems, equipment design, installation and efficiency, financing and regulation.

Pres. R. W. Lee Tells About the N. J. Gas Association

The New Jersey Gas Association claims the distinction of having the largest membership of any state organization in the county. We predict that the membership will go over the one thousand mark by Jan. 1, 1925.

The summer meeting of the Association was held Sept. 19 at the Ocean City Yacht Club and there was a large attendance.

Following the dinner, a treasure hunt featured the afternoon program in which Captain Kidd's buried treasures were located in the beach adjoining Great Bay.

Plans are being made for the biggest meeting in the history of the Association, which will be held at Newark or Jersey City next January. Prominent speakers will be present and several papers of interest to the gas industry will be read and discussed.

The association is publishing a monthly bulletin, which is proving to be a very popular publication.

Its columns are full of live "doings" of the various gas companies of the state.

Exhibits' Artistry of Finest Kind

Have you noticed the artistry of the entire exhibit this year? Not only of the exhibition hall, but of the individual exhibits themselves. The very beauty of the entire layout has the men depositing their ashes very carefully in inconspicuous places, carefully picking up bits of paper and waste that may have found their way to the floor. Even the ladies have been affected by their surroundings. We noticed more than one of the fair sex, coming to a sudden realization that the very commercial exhibit of gas application was a very artistic affair, take out powder puff and mirror to make sure that she was right up to her surroundings. This is a word of congratulations where congratulations are due.

American Gas Journal

SIXTY-SIXTH YEAR

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Daily Edition, published in Atlantic City, October 14, 15, 16, 17, 1924.

S. G. KRAKE, President-Treasurer CHAS. S. MYERS, Vice-President A. M. GLEASON, Secretary

ISMAR GINSBERG, Technical Editor

Editorial Offices: Atlantic City, Chalfonte Hotel; Booth Telephone, Steel Pier Marine 5744

Registration of A. G. A. Members will be printed in two sections in each daily issue of the American Gas Journal. List of Guests registered can be found in Booth 169 on Steel Pier.

Section I

Registration up to 12 m., Oct. 13th

A

Aaron, Charles T. Traymore
Adams, Henry Clay. Ambassador
Adams, W. A. Traymore
Aikin, H. C.
Alrich, Herbert W. Ambassador
Alexander, S. H. Chalfonte
Almberg, H. E. Traymore
Altick, Jos. G.
Andrew, Harold O. Chalfonte
Anthony, Joseph L. Marlborough-Blenhiem
Arnold, Geo. W.
Asendorft, Carl F. Traymore
Atwood, Charles C. Haddon Hall
Ayer, J. W. Haddon Hall

B

Baker, Charles I. Traymore
Baker, Perley H. Chalfonte
Baker, Vernon. Traymore
Ball, Frances Lee. Traymore
Barber, W. J. Traymore
Barclay, Thomas B. Chalfonte
Bartel, Emil J. Strand
Bartlett, C. E. Franklin
Battin, H. S. Traymore
Baxter, Lewis. Strand
Beal, A. R. Haddon Hall
Beckjord, Walter. Traymore
Beeden, George R. Chalfonte
Bennett, H. M. Traymore
Bennett, C. W. Traymore
Bennett, James M. Chalfonte
Bigelow, Lucius S. Chalfonte
Bischoff, Wm. H. Strand
Blanchard, Frank LeRoy. Traymore
Blome, Geo. Traymore
Blowers, Wm. B. Strand
Bonner, John J. Bothwell
Bonsall, Robert F. Traymore
Bratton, S. C. Strand
Brayer, John F. Knickerbocker
Breen, Charles J. Traymore
Brill, A. P. Traymore
Brown, Cameron. Traymore
Brown, J. Everett. Strand
Brown, John Carey. Chalfonte
Brownell, H. R. Traymore
Brudder, Julius. Traymore
Brug, C. J. Breakers
Bryant, C. L. Ritz Carlton
Bubb, George A. Sterling
Buckridge, Alfred O. Breakers
Buerkle, W. A. Ambassador
Bunnell, Sterling H. Breakers

C

Cadwallader, F. D. Chalfonte
Cameron, Ried A. Haddon Hall
Cannifi, R. J. Haddon Hall
Carleek, Harvey T. Strand
Carter, Charles Freeman. Seaside
Chandler, Harry P. Strand
Childs, Arthur E. Marlborough-Blenhiem
Christmas, Henry N. Chalfonte
Clark, Edwin. Chalfonte
Clark, Horace H. Traymore
Clark, R. K. Chalfonte
Clark, Wm. J. Traymore
Clifford, T. C. Haddon Hall
Clinton, De Witt. Haddon Hall
Coate, P. S. Ambassador
Coldwell, Clarence B. Traymore
Congdon, R. C. Sterling
Conklin, John P. Traymore
Connolly, John P. Strand
Cook, H. R. Jr. Strand
Cooper, J. E. Traymore
Corson, A. S. Ambassador
Cottle, Henry F. Continental
Crane, Wm. M. Haddon Hall
Crawford, R. P. Chalfonte
Crenshaw, L. G. Traymore
Cressler, Geo. H. Traymore
Creviston, A. E. Traymore
Crouch, Walter D. Haddon Hall
Crowley, J. P. Traymore
Curfman, Floyd G. Chalfonte
Curren, Sidney. Haddon Hall

D

Dailey, E. V. Strand
Dains, Harry P. Strand
Dangler, D. E. Breakers
Davies, J. E. Traymore
Davis, E. P. Breakers
Davis, Merrill N. Traymore
Day, A. B. Traymore
Dearborn, W. O. Bothwell
Derby, Wm. L. Elberon
Devereaux, John W. Traymore
Dickey, Charles H. Sea View Golf Club
Dickey, Edmund S. Traymore
Doering, Henry A. Traymore
Doty, Albert M. Traymore
Downe, Edward R. Traymore
Duff, Jackson. Chalfonte
Dunbergh, Benton Handler. Haddon Hall
Dunn, J. F.
Durell, C. M. 21 S. Indiana Ave. Local
Dushane, O. Benson, Jr. Traymore
Dyer, John C. Traymore

E

Earnshaw, Edward H. Strand
Easter, T. J. Breakers
Eberhart, A. O. Traymore
Egleston, G. P. Traymore
Ehlers, W. A. Haddon Hall
Elmer, C. B. Chalfonte
Emmerling, Karl. Strand
Enns, Henry T. Strand
Fairchild, S. E. Jr. Traymore
Fisher, George T. Traymore
Fisher, Luella M. Breakers
Flowers, Dean W. Traymore
Foster, F. H. Traymore
Fox, M. C. Seaside

F

Frame, Paul. Traymore
Frank, G. Harry. Knickerbocker
Frank, M. H. Traymore
French, C. H. Chalfonte
Friedlander, Max J. Shelburne
Friedman, Arthur. Traymore
Friedman, Leo. Traymore
Fuller, Raymond S. Traymore

G

Galligan, J. E. Ambassador
Ganser, H. H. Traymore
Gebhart, George G. Ambassador
Geddes, John W. Traymore
Graham, W. H. Strand
Green, Albert. Traymore
Gribbel, W. Griffin. Traymore
Griffiths, Norman J. Haddon Hall
Griggs, Edward R. Strand
Gross, Herbert C. Chalfonte
Guitteau, W. S.

H

Haase, E. Strand
Halsey, William M. Marlborough-Blenhiem
Halyburton, Harold S. Strand
Hamilton, D. M. Traymore
Hamilton, Paul H. Traymore
Hammermeister, Otto F. Chalfonte
Hanlan, J. P. Haddon Hall
Harbison, Charles. Strand
Harding, C. R. Franklin
Harper, Robert B. Traymore
Hartsell, A. C. Strand
Hart, R. W. Chalfonte
Hartson, Dorr P. Traymore
Hayward, Harold A.
Henry, Hall M. Traymore
Hersig, H. L. Breakers
Heyser, E. L. Traymore
Higgins, A. A. Traymore
Hills, A. Stedman. Strand
Hobstetter, J. H.
Hoey, R. W. Traymore
Horton, E. J. Traymore
Howard, A. C. Ambassador
Huber, Frank. Seaside
Hubley, George W. Marlborough-Blenhiem
Humm, Albert W. Chalfonte
Hutchins, R. J. Knickerbocker

J

Jefferies, C. A. Ambassador
Jefferson, W. H. Traymore
Johnson, B. Kay. Traymore
Johnson, G. M. Traymore
Jones, Jacob B. Normandie

K

Kahle, R. L. Traymore
Kallstedt, C. H. Strand
Keller, Albert R. Traymore
Kellogg, L. I. Traymore
Kelly, Thomas J. Breakers
Kennedy, James S. Haddon Hall
King, Thomson. Strand
Kirchmer, Geo. M. Ambassador
Klees, Albert L. Traymore
Klein, Alfred K. Traymore
Klein, Bernard D. Lelande
Klopf, George C. Breakers
Klump, J. B. Traymore
Knapp, F. H. Traymore
Knight, Wm. H. Chalfonte
Krause, Charles. Traymore

L

Lacey, W. R. Strand
Lambert, N. D. Breakers
Landers, Ray F. Ritz-Carlton
La Row, Leo E. Traymore
Lathrop, Alanson P. Traymore
Lawall, Harold J. Ambassador
Lawrence, William F. Bothwell
Lawson, L. S. Ambassador
Layer, George. Traymore
Lehman, Harry D. Strand
Leins, O. J. Traymore
Lemka, F. A. Traymore
Lewars, C. E. Ambassador
Lewis, William H. Ambassador
Lindsay, Robert. Breakers
Little, A. S. B. Ambassador
Livingston, Robert E. Brighton
Lloyd, Mrs. Edith M. Chalfonte
Lloyd, Howard M. J. Traymore
Lockwood, Alan E. Ambassador
Long, H. J. Strand
Lucena, Joseph. Chalfonte
Luthe, Julius K. Traymore

M

McCarthy, Edward A.
McDonald, Frederick. Traymore
McGreevy, J. P. Traymore
McIlheany, John D. Jr. Traymore
McKean, Norton. Traymore
McKee, James. Breakers
McKenzie, W. H. Traymore
McKinny, A. Chalfonte
McNary, John B. Seaside
MacArthur, Angus. Traymore
Mac Sweeney, Joseph P. Traymore
Major, W. A. Jr. Haddon Hall
Mange, J. I. Traymore
Manier, R. L. Strand
Markley, Joseph C. Traymore
Marks, A. A. Bothwell
Martin, Raymond M. Ambassador
Mears, F. K. Strand
Mehrman, John. Breakers
Mentzer, H. G. Traymore
Merchant, A. E. Traymore
Miller, Harold T. Chalfonte
Millspaugh, Geo. M. Strand
Mills, W. E. Franklin
Misner, Ira C. Traymore
Mitchell, James. Traymore
Moecker, Henry Jr. Chalfonte
Montgomery, George. Elberon
Montgomer, John E. Traymore
Moorehead, I. H. Jr. Traymore
Morris, Edgar. Strand
Morrow, Clarence Herbert. Ambassador
Morse, C. S. Strand
Moss, W. E. Ambassador
Mueller, O. B. Ambassador
Mulholland, S. E. Breakers
Muller, J. H. Strand
Munroe, Chas. A. Traymore
Myer, Clinton D. Haddon Hall

N

Neal, George A. Traymore
Nicholls, J. Shane Jr. Traymore
Nieberding, F. A. Breakers
North, Melville, F. Breakers
Nutting, Paul J. Traymore

O

Owen, Earhart. Ambassador
O'Brien, Bernard. Traymore

P

Paige, Clifford E. Traymore
Peters, A. J. Traymore
Pfeiffer, Bernard V. Traymore
Phillips, C. B. Traymore
Post, Alfred P. Haddon Hall

Q

Quinn, W. C. Traymore

R

Reinhard, S. A.
Richardson, H. Edward. Strand
Ridley, C. L. Jr. Breakers
Rogers, William G. Strand

S

Sanderson, L. E. Traymore
Savage, Frank J. Traymore
Schaefer, F. A. Pine Tree Inn
Schaeffer, W. L. Haddon Hall
Schroeder, Harvey C. Strand
Shearon, B. P. Traymore
Smith, E. L. Traymore
Smith, J. Henderson. Strand
Smith, Wilson A. Traymore
Spitzglass, J. M. Traymore
Stein, Louis. Traymore
Stephany, E. J. Traymore
Swain, T. M. 2. N. Montpelier Ave.

T

Taylor, P. D. Traymore
Terredell, Wm. J. Jr.
Thompson, Paul. Traymore
Turner, Chas. F. Strand

V

Vincent, G. I. Chalfonte

W

White, Howard E. Traymore
Wilkinson, G. D. Traymore
Wilson, H. A. Haddon Hall
Worrell, Duncan A. Franklin
Wyer, Samuel S. Ritz-Carlton

Y

Young, Robert W. H. Ambassador

(Due to Stenographic Error the Town Addresses of the above were omitted.)

Section II

Registration from 12 m. to 4 p. m., Oct. 13th

A

Adams, Frank H.; New York City; Traymore
Abbott, Merle E.; Taunton, Mass.; Traymore
Africa, Walter G.; Manchester, N. H.; Traymore
Africa, Walter M.; Manchester, N. H.; Ambassador
Anderson, G. A.; Sheboygan, Wis.; Breakers

B

Babbitt, H. H. Jr.; Taunton, Mass.; Brighton
Bader, Charles E.; New York City; Breakers
Baehr, W. A.; Chicago, Ill.; Ambassador
Bauer, E. H.; Traymore
Bailey, E. P. Jr.; Cleveland, O.; Traymore
Barnes, Albert M.; Cambridge, Mass.; Traymore
Barnum, D. D.; Boston, Mass.; Traymore
Batten, J. W.; Detroit, Mich.; Breakers
Battey, W. A.; Phila. Pa.; Haddon Hall
Baylie, Wm. P.; Phila. Pa.; Strand
Beebe, F. H.; Fort Wayne, Ind.; Traymore
Bertl, Norbert Eugene; New York City; Strand
Blyler, L. F.; West Duluth, Minn.; Knickerbocker
Borden, A. W.; Hastings, Neb.; Breakers
Boyd, Albert M.; Phila. Pa.; Traymore
Boyd, William F.; Phila. Pa.; Breakers
Brady, Edward J.; Phila. Pa.; Ambassador
Brewer, Edward D.; Atlanta, Ga.; Traymore
Brown, M. Elton; Jamaica, N. Y.; Strand
Brown, R. B.; Traymore
Brown, S. W.; Florence, S. C.; Breakers
Brundage, Henry M.; New York City; Chalfonte
Bryans, Henry B.; Norristown, Pa.; Traymore
Bulkley, Warren T.; Danbury, Conn.; Ritz-Carlton
Butterworth, Arthur S.; Traymore

C

Carmichael, Joe; Des Moines, Ia.; Traymore
Carnahan, G. C.; Chicago, Ill.; Traymore
Carr, W. De L.; Hammond, Ind.; Ambassador
Carroll, Chas. E.; New Bedford, Mass.; Knickerbocker
Cassell, J. F.; Baltimore, Md.; Chalfonte
Cattell, Ed. E.; Brooklyn, N. Y.; St. Charles
Cauley, Frank F.; Chicago, Ill.; Strand
Charles, L. A.; West New York, N. J.; Haddon Hall
Clark, Walton; Phila, Pa.; Traymore
Clay, Noble; Winston-Salem, N. C.; Breakers
Cledhil, A. R.; Brooklyn, N. Y.; Strand
Coffin, Wm. H.; Gloucester, Mass.; Strand
Collins, D. J.; Phila. Pa.; Traymore
Connette, T. W.; Lockport, N. Y.; Knickerbocker
Cooney, Edward J.; Lowell, Mass.; Strand
Cory, R. J.; Valparaiso, Ind.; Ambassador
Cremer, Geo. S.; Brooklyn, N. Y.; St. Charles
Crone, Frederick W.; New York City; Shelburne
Crowell, James K.; Yonkers, N. Y.; Ritz-Carlton
Crowley, Francis W.; New Bedford, Mass.; Chalfonte
Cutcheon, F. R.; Long Branch, N. J.; Breakers
Curtis, Claude C.; Fall River, Mass.; Traymore
Curtin, E. R.; Lima, O.; Traymore
Curtin, Emmett R. Jr.; Lima, O.; Traymore

D

Davey, Allan C.; Marinohe, Wis.; Breakers
Davidson, Kenneth H.; New York City; Ambassador
Derwent, Watson E.; Rockford, Ill.; Traymore
Dexter, Forrest P.; Fall River, Mass.; Traymore
Dickerson, Walter; Newark, N. J.
Dieterle, Edward A.; Chicago, Ill.; Traymore
Doherty, Jas. A.; Ritz-Carlton
Drewson, John; Pittsburgh, Pa.; Ambassador
Dunkley, Wm. Albert; Memphis, Tenn.; Ritz-Carlton
Dustin, G. K.; Boston, Mass.; Strand
Dutton, L. R.; Jenkintown, Pa.; Haddon Hall

E

Ebentier, A. F.; Green Bay, Wis.; Breakers
Edwards, E. B.; Northampton, Mass.; Strand
Evans, O. B.; Phila, Pa.; Shelburne
Eves, Philmer; New Haven, Conn.; Haddon Hall

F

Fancy, Ramond A.; Watertown, Mass.; Chalfonte
Farwell, Stanley P.; Chicago, Ill.; Traymore
Ferguson, B. B.; Portsmouth, Va.; Strand
Fink, Henry; Detroit, Mich.; Breakers
Fogg, Oscar H.; New York City; Traymore
Ford, Herman F.; Brooklyn, N. Y.; Haddon Hall
Forstall, Walton; Phila, Pa.; Strand
Fowler, J. Scott; Phila, Pa.; Haddon Hall
Fox, E. W.; Norristown, Pa.; Traymore
Fugate, Frank S.; Detroit Mich.; Breakers

G

Gannon, John J.; St. Augustine, Fla.; Strand
Gardner, B. H.; Lafayette, Ind.; Ambassador
Gartland, E. P.; Denver, Colo.; Ritz-Carlton
Gillingham, H. D.; Montclair, N. J.; Traymore
Gould, William; Boston, Mass.; Strand

H

Haverly, O. L.; Waverly, N. Y.; Traymore
Habig, Leonard C.; Passaic, N. J.; Chalfonte
Hagon, Wm. G.; Cleveland, O.; Ambassador
Halvorson, Hawthorne P.; Boston, Mass.; Ambassador
Hamilton, F. E.; New York City
Hatten, Frank W.; New York City; Traymore
Hegel, Frederick T.; New York City; Strand
Heins, J. W.; Phila, Pa.; Strand
Hibbs, Weston J.; Phila, Pa.; Traymore
Hicks, Harry J.; Palm Hall
Holmes, H. S.; St. Louis Mo.
Hough, M. C.; Nashville, Tenn.; Breakers
Humphreys, J. J.; Montreal, Canada; Chalfonte

J

Jackson, Thomas H.; Strand
Jalien, John J.; New York City; Strand
James, W. H.; Petersburg, Va.; Strand
James, F. M.; Aurora, Ill.; Ambassador
Jares, Joseph; Brooklyn, N. Y.; Strand
Jenkins, Albert F.; Yonkers, N. Y.; Traymore

K

Kain, Robert E.; Ardmore, Pa.; Strand
Kane, M. L.; Atlanta, Ga.; Traymore
Kirkpatrick, H. B.; Pittsburgh, Pa.; Brighton
Keegan, J. G.; Cheyenne, Wy.; Ritz-Carlton
Koch, Herman Jr.; Fall River, Mass.; Traymore
Koehler, Robert A.; Newark, N. J.; Haddon Hall
Lane, George A.; Chicago, Ill.; Traymore

L

Lathrop, F. A.; Chicago, Ill; Traymore
Laughton, A. A.; Athol, Mass.; Traymore
Learned, John G.; Ambassador
Lester, Evan J.; Phila, Pa.; Shelburne
Laudemann, Albert V.; New York City; Strand
Lowe, John; New York City; Traymore
Luther, Charles A.; Chicago, Ill.; Traymore
Lynch, R. L.; Lima, O.; Breakers
Lytle, Hal M.; Chicago, Ill.; Traymore

M

McDonald, W. F.; Elmhurst, L. I., N. Y.; St. Charles
McGovern, James; Taunton, Mass.; Brighton
McGuire, James; Gloversville, N. Y.; Strand
McKana, Geo. E.; Chicago, Ill.; Traymore
McKnight, J. J.; Pottsville, Pa.; St. Charles
McPherson, J. H.; Strand
McQueston, Wm. M.; Lawrence, Mass.; Ambassador
Macbeth, A. B.; Los Angeles, Cal.; Traymore
Marsden, C. P.; Glenridge, N. J.; Haddon Hall
Mather, John L.; Wayne, Pa.; Strand
Mattison, O. W.; Mexico, Mo.; Knickerbocker
McMahon, John J.; Cleveland, O.; Ambassador
Meredith, R. B.; Waukegan, Ill.
Merkt, Theo. B. J.; Brooklyn, N. Y.; Strand
Metz, Eugene; Kansas City, Mo.; Traymore
Miller, Robert Campbell; N. Y. C.; Seaside
Miller, H. Harold; Gettysburg, Pa.
Moffat, Fred W.; Weston Ont. Can.; Haddon Hall
Moore, J. H.; New York City; Chalfonte
Moore, L. L.; Phila, Pa.; Traymore

N

Nash, Clinton A.; Davenport, Iowa; Breakers
Nason, Jos. E.; Erie, Pa.; Traymore
Neubert, E. J.; Erie, Pa.; Breakers
Nettles, Rosco; Tampla, Fla.; Traymore
Nicol, N. C.; New York City; Chalfonte
Noble, J. A.; Lockport, N. Y.; Knickerbocker
Norman, E. A.; New York City; Shelburne
Norton, H. A.; Boston, Mass.; Seaview Golf Club

O

O'Brien, Wm. F.; New York City; Traymore
O'Donnell, Charles J.; Phila, Pa.; Traymore
O'Donnell, F. W.; Phila, Pa.; Breakers
Oliphant, F. H.; Erie, Pa.; Traymore

P

Palmer, Alva M.; New York City; Strand
Papen, F. Theodore; Cambridge, Mass.
Parker, Geo. W.; St. Louis Mo.; Traymore
Payne, Calvin N., 2nd; Erie, Pa; Traymore
Payne, F. H.; Erie, Pa.; Seaview Golf Club
Pease, W. T.; Boston, Mass.; Haddon Hall
Peck, John V.; Detroit, Mich.; Traymore
Perkins, Robert W.; Norwich, Conn.; Brighton
Perretti, Amato; New York City; Breakers
Piatt, Joseph W.; Brooklyn, N. Y.; Strand
Pittman, M. H.; Atlanta, Ga.; Traymore
Pompa, Andrew; Brooklyn, N. Y.
Porter, R. G.; Chester, Pa.; Ambassador
Porter, Wm. N.; Shelburne
Potter, Ornsby F.; Newark, N. J.; Traymore
Pierce Thomas D.; Columbus, O.; Traymore
Potter, Henry W.; Burlington, Iowa; Ritz-Carlton
Porter, Edward; Phila, Pa.; Strand
Power, James R.; Strand

Q

Quinn, Joseph F.; Brooklyn, N. Y.; Strand
Ramsburg, C. J.; Pittsburgh, Pa.; Traymore
Rand, R. R. Jr.; Minneapolis, Minn.; Ambassador
Rasch, Wm. T.; New York City; Traymore

R

Ratcliff, T. C.; Baltimore, Md.; Traymore
Rath, Thos.; Lorain, O.; Breakers
Ratner, Abner; Camden, N. J.; 11 S. Cal. Ave.
Rawlings, H. C.; Milwaukee, Wis.; Traymore
Rawson, Irwin; St. Louis, Mo.; Traymore
Redington, Horace Ray; Pittsburgh, Pa.; Chalfonte
Reid, Wm. E.; Phila, Pa.; Traymore
Reiner, Otto; Paterson, N. J.; Ambassador
Reinicker, C. E.; Phila, Pa.; Chalfonte
Reynolds, J.; New York City; Seaside
Richardson, James S. S.; Phila, Pa.; Colton Manor
Ritter, Chas. S.; Detroit, Mich.; Breakers
Roberts, Earle W.; Detroit, Mich.; Traymore
Roberts, John M.; Chicago, Ill.; Traymore
Roberts, Geo. L.; Bristol, Conn.; Traymore
Roberts, C. V.; Phila, Pa.; Seaside
Robertshaw, G. A.; Youngswood, Pa.; Haddon Hall
Robinson, Wm. M.; Hartford, Conn.; Royal Palms
Rodgers, Paul Cochran; New York City; Shelburne
Rolston, R. J.; Phila, Pa.; Traymore
Romaine, H. J.; Flushing, N. Y.; Wiltshire
Roper, Mahon P.; Rockford, Ill.; Traymore
Rosenkrans, F.; New York City; Ritz-Carlton
Ross, S. R.; Phila, Pa.;

S

Saas, A. P. de; New York City; Ritz-Carlton
Sackett, James A.; New York City; Seaside
Sande, Carry; Cleveland, O.; Traymore
Sanford, H. S.; Pittsburgh, Pa.; Ambassador
Savory, T. C.; Boston, Mass.; Haddon Hall
Sauer, Wm. A.; Chicago, Ill.; Traymore
Saunders, Geo. E.; Bothwell
Saunders, W. E.; Phila, Pa.; Knickerbocker
Schaefer, Oscar; Strand
Schell, H. D.; Detroit, Mich.; Traymore
Schenker, A. W.; Brooklyn, N. Y.; St. Charles
Schlegel, Carl A.; Phila, Pa.; Traymore
Schoenberger, W. J.; Cleveland, O.; Shelburne
Schonfarber, J. G.; Providence, R. I.; Breakers
Schoonmaker, Wm. L.; Paterson, N. J.; Strand
Schutt, H. L.; Buffalo, N. Y.; Chalfonte
Searing, Roy B.; Sioux City, Ia.; Ritz-Carlton
Searle, Allen A.; New York City; Clarendon
Seideman, Leon; New York City; Bothwell
Serrill, Wm. Jr.; Phila, Pa.; Brighton
Sexton, W. E.; Baltimore, Md.; Strand
Shadwell, Gilbert C.; Freeport, N. Y.; Seaside
Shaul, C. D.; Terre Haure, Ind.; Traymore
Sherman, S. B.; Racine, Wis.; Breakers
Shiebler, Marvin; New York City; Traymore
Shields, Ed. James; Brooklyn, N. Y.; Strand
Shuff, J. E.; Traymore
Simler, C. P.; Lorain, O.; Traymore
Snyder, A. I.; Detroit, Michigan; Breakers
Slattery, J. B.; Brooklyn, N. Y.
Smart, Burton; Portland, Maine; Haddon Hall
Smith, A. J.; Concord, N. H.; Traymore
Smith, Earl, Atlantic City, N. J.;
Smith, Geo. H.; New York City; Chalfonte
Smith, L. C.; Gloversville, N. Y.; Strand
Smith, Theo. W. E.; New York City; Clarendon
Smith, Wm. P.; Brooklyn, N. Y.; St. Charles
Smith, Snaford C.; Buffalo, N. Y. Ambassador
Snyder, Samuel; Phila, Pa.; Franklin
Spear, M. H.; Flushing, N. Y.; Haddon Hall
Speer, R. I.; Molbile, Ala.; Shelburne

T

Talbott, A. M.; Fremont, Nebr.; Ritz-Carlton
Tatman, J. S.; Connersville, Ind.; Traymore
Taylor, Jos. D.; Baltimore, Md.; Traymore
Taylor, Wm. H.; Atlanta, Ga.; Traymore
Thacher, Ralph H.; Utica, N. Y.; New Belmont Hotel
Thompson, Theodore; Harvey, Ill.; Chalfonte
Thompson, William D.; St. Louis, Mo.; Ambassador
Thorn, Alexander H.; Chicago, Ill.; Traymore
Thorn, F. G., Jr.; Philadelphia, Pa.; Craig Hall
Thorpe, Walter Lawrence; Philadelphia, Pa.; Traymore
Timm, Charles F.; Yonkers, N. Y.; Chalfonte
Tinnerman, A. H.; Cleveland, O.; Traymore
Tossell, Albert L.; Chicago, Ill.; Traymore
Townsend, William; Chicago, Ill.; Traymore

U

Underhill, Reginald B.; Brooklyn, N. Y.; Strand
Unger, J. S.; Chicago, Ill.; Traymore.

V

Valentine, H. D.; Traymore
Vandell, William E.; Fitchburg, Mass.; Traymore

W

Wagner, George F.; Lowell, Mass.; Ambassador
Wagner, Herbert D.; Lockport, N. Y.; Knickerbocker
Waldron, J. H.; Brooklyn, N. Y.; Chalfonte.
Wallace, A. J.; Philadelphia, Pa.
Wallace, R. A.; Quebec, Canada; Seaside Hotel
Wallace, C. W.; Toledo, O.; Ritz-Carlton
Ward, D. L.; Chicago, Ill.; Traymore
Wardell, Chas. W.; Philadelphia, Pa.; Haddon Hall
Warren, P. D.; Chicago, Ill.; Traymore.
Watson, Zerah E.; Newark, N. J.; Strand
Weiser, John A.; York, Pa.; Traymore
Wells, Fred K.; Tramore.
Welsh, Wm. J.; Stapleton, N. Y.; Ambassador.
Werner, Louis H.; New York City, Ambassador
Weston, J. A.; Lansing, Mich.; Traymore
Weston, Edgar C.; Ritz-Carlton
Weaver, Fred A.; Mansfield, O.; Traymore

Y

Yetter, Louis N.; 2001 Atlantic Ave.; Traymore

Z

Zander, John; Chicago, Ill.; Traymore
Ziebell, L. P.; Green Bat, Wis.; Breakers

Analysis of Gas Company Statistics

The importance of statistics to the gas industry is explained

Report of 1924 Committee

H. J. LaWall

The United Gas Improvement Co., Philadelphia, Pa.

STATISTICS and their analysis as applied to gas companies is a subject entirely new to the Accounting Section of this Association. Your committee is the first one to be appointed to make a study of this very broad subject.

In recent years accounting and statistical work has received recognition as an aid to better management. This should be particularly gratifying to statisticians and accountants in the gas industry, as it was not many years ago that the so-called "bookkeeper" was hailed as a necessary nuisance, whereas today the well organized accounting and statistical department has demonstrated its value as an essential aid to the management in solving some of the very complex problems that come before it.

Statistics are constantly being compiled by gas companies throughout the country and it is questionable whether or not the management of the various units of the industry realizes the importance of using this available information to the fullest extent. Statistical data does not mean very much unless it is properly interpreted and understood. Yardsticks of measurement may mean much or little to the management, depending upon its knowledge of the use to which these yardsticks may be put. An example of what is meant in this connection is shown by the brief financial statement following, and how this statement lends itself to analysis from almost any angle.

H. J. La Wall

Cooperation with A. G. A. Headquarters on National Statistics

It is probable that all of the larger company organizations have had occasion to use statistics and that the more progressive of them have been sufficiently impressed with the importance of statistical information in the broadest sense of the term, to establish statistical departments for the orderly and continuous collection and interpretation of such data. Nevertheless, it is a fact that as an Association we have never given consideration to this very important subject so far as it concerns the activities of the companies themselves, the character of the information which can and should be included, and the manner in which it may be most advantageously gathered and interpreted so as to be of maximum benefit both to the individual company and the industry as a whole.

It was therefore the opinion of the Managing Committee of the Accounting Section that statistics should be made the outstanding subject for consideration in this year's program and more particularly because the growing demand for statistical information by individual utility managements, by investment bankers, regulatory bodies, publicity departments and others makes it essential that the industry as a whole, rather than a few scattered companies, should be sold on the importance of statistics; and that coincidentally a decision should be reached as to the type of information, the segregation of which will be of most tangible assistance to the management in developing their individual situations and which may lend itself most readily to comparison with other situations or summarization as a means of tracing the development of the industry as a whole.

Accounting Section to Handle Work

It was further the opinion of the Managing Committee that this work from its very nature could best be developed through the Accounting Section of the Association and accordingly the present committee was made up for this purpose, composed of representatives in charge of the statistical work of nineteen of the largest companies in the country. In submitting the present report the committee feels that it has merely scratched the surface and strongly urges that the Accounting Section maintain its activity in this work through a continuing committee which will not only study the statistical problem of the individual company but which will act as an advisory board to Association Headquarters in the

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*To be delivered before the meeting of the Accounting Section, A. G. A., Atlantic City Convention, October 14, 1924.

gathering of national statistics and in replying to special statistical inquiries received at Headquarters.

The committee wishes further to state that it considers this question of sufficient importance to recommend that consideration be given to the development of a statistical department at Association Headquarters which will not only handle the annual statistics heretofore published but will be available throughout the year for special statistical investigations on questions of importance to the industry; and that it is in cooperating in this work and in an effort (after further study), to simplify and co-ordinate the questionnaires submitted to the industry from all agencies, that the committee feels that the Accounting Section can be of maximum benefit in establishing an Advisory Committee such as proposed above.

Outline of Sub-Committee Reports

The present committee report includes the work done by three sub-committees, their reports being printed in full and made a part of this report.

The report of the Sub-Committee under Mr. G. S. Cremer, chairman, defines the statistician and scope of his work, outlines the general principles of statistical work, shows the proper method of presentation and describes the methods used in making special studies dealing with economic questions which may determine administrative policies. His report explains the whys and wherefores in such a manner that there can be no doubt as to the correct way of getting at the solution of any problem that may present itself to the accountant and the statistician. Since it is recognized that an accurate analysis of business is essential to progress, and decisions of the successful manager are based on a thorough knowledge of the past and present, the method of presentation of facts and figures is therefore of great importance. The report may seem a bit technical to the layman, but this committee strongly recommends that it be carefully read by all those who are acting in the capacity of accountants and statisticians, as it brings out the underlying principles which it is necessary for the analyst to know.

Value of Statistics

The report of the sub-committee, under Mr. F. L. Blackburn, chairman, deals with the value of statistics as applied to sales, revenues and costs. This subject first takes up the question of properly classifying sales and operating revenues and definitely recommends that companies should further sub-divide the sales and revenues accounts as set up in the Uniform Classification of Accounts, on the basis of use, such as Domestic Sales, Industrial Sales, Commercial Sales, etc. It goes on record that this is essential for the intelligent development of the sales possibilities of the business which requires a knowledge of the degree of sales saturation reached in each of its "use" classifications. It points out the value of having available comparative data on Sales and Revenue, classified in accordance with the "use" classification in order to accurately gauge the possibilities of any company by making comparisons with other like situations. A common yardstick of accomplishment and opportunity is therefore important.

In connection with keeping such a classified record of Sales and Revenue, it is also important to show statistics embracing the number of customers served, sales in cubic feet per customer, and revenue per M cu. ft. and per customer. Also the number of customers per thousand of population and the sales per capita of territory served.

It is also recommended that a periodic analysis of sales and revenue be made, such as the classification of sales into drug stores, hotels and restaurants, department stores, bakeries, foundries, laundries, etc. Comparison of sales results prepared in this manner in any one situation with those of others will be helpful in determining the most advantageous direction for sales activities.

Value of Allocating Operating Expense

The second part of this sub-committee report is devoted to a discussion of the value of allocating operating expenses in accordance with the revenue classifications, as recommended in the first part of the report, so that the cost report will reveal the existing operating costs occasioned by each class of business. It points out that the ideal condition would be to have a system whereby the exact operating costs occasioned by each class of business could be ascertained, and although this condition will perhaps be difficult of accomplishment, it should be the goal toward which attention should be directed. It quotes in support of this opinion the report of the 1923 Rate Structure Committee that "cost of service" is the most important element that should be taken into consideration in order to intelligently charge for service. The making of satisfactory selling rates involves two major considerations, viz.: the cost of service rendered and the value of the service to the customer. The former is a true measure of the prices below which the company must not go, and the latter of the price above which the customer will refrain from using the service. These two factors have long been recognized in many industries, particularly the railroads, as is evidenced by the following illustration. There is no doubt that the cost per ton mile of hauling sand, crushed rock and other similar products is identical with the cost of transporting coal, high grade ores, etc. It is obvious that had the railroads attempted to establish tariffs as high for the former class as for the latter, these materials would in many instances not be moved. Since the railroads have for

years given recognition to this fact in establishing their tariffs, it goes without saying that their cost records must have furnished an indication of the permissible lower limits of charge. It is essential, therefore, to set up some standard units of measure, if possible, for this purpose as well.

Cost of Supplying Service

The present accounting system for operating costs does not furnish directly the cost of supplying service to different classes of customers. When such information is desired, it is at present necessary to undertake a special analysis as is evidenced by the reports which have been presented in each of the last two years by the Rate Structure Committee of the A. G. A. on proper methods of cost analysis. The analysis in the report for the year 1923 seems to approximate very closely the desired information and this report is strongly recommended to the attention of the industry. It should be pointed out that nothing in this report is intended as a recommendation for any change in the present Uniform Classification of Accounts for Gas Utilities; the recommendations being intended as subdivisions of accounts voluntarily set up by the individual companies as auxiliary records.

The cost figures usually presented by gas companies in their reports show the cost of the various operating expense items expressed in cents per M cu. ft. of gas sold. It is well known that all expenses do not fluctuate in proportion to the volume of sales; some are dependent upon volume, some on miles of main, number of services, number of meters, number of customers, amount of property, etc. It is, therefore, important to find out the determining factors in each account which cause the expenses to fluctuate and then reduce the costs to the proper units.

It is probable that some gas companies periodically undertake an analysis of costs with a view of ascertaining the cost of serving their several classes of customers. It will doubtless be admitted by all that a running record which would indicate the cost for each class would be far better than one secured from a special analysis, in that greater weight will be attached to it by regulatory bodies, the public and public utility management. It is appreciated that obstacles will be encountered in the keeping of a running cost record, which will show the true cost of each class of customer, because it may be necessary to modify to some extent the present accounting practice. Let us not be deterred by obstacles, however, from the making of an effort to secure a result that all admit is worth while and essential to the best results.

Importance of Cost Analysis

Most gas companies not only do not keep such a running cost record but do not analyze their cost years accounting systems that reflect accurately the cost of various articles produced. The time has arrived when our industry cannot longer afford to with a view of determining the costs of service to each class of customer. The gas industry is a quantity production enterprise. Practically all such quantity production enterprises have employed for postpone the initiating of methods, for a similar purpose. This committee, therefore, feels that the subject of cost analysis should be one of the outstanding studies of future committees. The practical difficulties in the way of analysis of income and expense accounts, which are admittedly considerable, should not be permitted to interfere with the solution of a problem which fundamentally affects the industry's development. Intelligent sales efforts and rate schedules equitably adjusted to induct the maximum of business at a rate which is justified by the cost involved in handling each type of business, are essential if the industry is to attain the position in its field to which the character of its product and service entitle it.

Forms of Statistical Reports

The report of the sub-committee under Mr. G. E. McKana covers a discussion of the statistical report forms now in use by some of the member companies and includes a set of proposed monthly report forms based on a study of the forms considered.

This study revealed that there were wide differences between the forms, as to size, arrangement, data included, etc., and that there has been no step made so far toward standardization.

In the time available for the work, it was not possible to cover many points which the committee feels should be embodied in an ideal set of forms. There is, therefore, plenty of work left for the next committee to do in this regard. It is, however, recommended that the forms included in the present report be carefully studied as they include many valuable features that any progressive company could adopt and thereby increase the usefulness of statistical reports by utility management.

Industry Must Be Sold on Value of Statistics

When we say that it is necessary to sell many companies in the industry on the value of statistics it is a little difficult to see why this should be so, when we realize what has already been accomplished in this field by many of our most progressive companies, and when we further consider the demands for information of a statistical nature that are constantly being made by sources both within and without the company's organization.

It has been stated that executives, being busy men with any number of things to do, have neither the time nor the patience to wade through a mess of de-

tails. Statistical reports should be simple and concise, touching the salient and principal points of information. Those companies that have not in their organization an individual charged with the collection, preparation, and interpretation of statistics are neglecting a very important portion of their business. Every department head as well as the accounting head will have a more intelligent grasp of his company's business as a whole if he takes up statistics and helps to interpret them.

What Is the Work of the Statistician?

The conclusion should not be drawn that the work of the statistician is simply the work of compiling and tabulating statistics. The important duty of the statistician is the analytical work involved in he interpretation of statistics and in relating them to the problem in hand.

In many organizations the statistician is really working in the capacity of an assistant to the general manager, studying problem after problem referred to him for interpretation. The result is that the answers to the problems with which the company is confronted are not based on assumption or guesswork. Matters are traced back to their causes. The statistician, therefore, is essentially an analyst and the full value of his work will not be realized unless he is given an opportunity to go far beyond the matter of recording statistics.

Citing actual cases where statistics play an important part, there is a certain firm of public accountants whose business has grown by leaps and bounds, particularly in the field of public utility auditing. This firm does a great deal of auditing on behalf of financial houses, and one of the principal reasons for the rapid development of their business, as told them by the bankers, was that their reports not only contained carefully prepared financial figures, but related changes in those figures to their causes through the medium of statistical analyses.

It is not unusual to find utility men who question the value of the statistical information required in commission reports. In the past there has probably been justification for this because many of the reports required a mass of statistical data not bearing very directly upon the work of the commissions. Assuming, however, that extraneous and unnecessary information is excluded from the commission reports, the importance of furnishing completely and accurately the information called for cannot be over-emphasized.

How Statistics Prove Their Value

A great many of our Public Service Commissions are made up of men who at first are not acquainted in detail with our business and a proper statistical presentation of cases coming before these commissions not only takes them into our business but permits them to grasp the essentials involved in the cases much more readily than would otherwise be the case.

The following is a citation of two actual cases that came before a Public Service Commission as related by its statistician:

"One of our companies, which was rather hard pressed by the rapid increase in prices during and following the war, operated gas companies in a number of cities. It filed application for increases in rates and the cases came to trial in due course. When the cases were tried and our staff started to work upon them, it was found that the statistical information furnished by the company was inconsistent with the previous reports, with the reports of other companies, and with other information in the reports of the company itself. As a result of this, the commission found it impossible to render a decision which would fully care for the company's needs without considerable delay. Some emergency increase was granted to tide the company over the bare necessities of the immediate present but, in order to determine what was necessary to afford a fair return, it was necessary to delay the case until discrepancies in statistical data could be reconciled. The same company later had an electric case before the commission in which it was necessary to place a member of our staff on such statistical records as existed and spend something over a month in analyzing and reconciling those records before the commission could be sure that it had anywhere near a correct statement of the operating statistics, such as energy generated, energy delivered to various localities, and energy sold. The fundamental difficulty was that the company did not have any organized method of preparing statistical data. Most of the essential statistics had been kept in some manner at various points in the organization but no one had been charged with the responsibility of assembling them or of analyzing them for the purpose of detecting and correcting errors and interpreting them in the light of the cases before the commission. In the case of this company, shortly after these cases were before the commission, it employed a competent statistical man to compile and analyze the data with the result that in recent cases which have been before us not more than a few days at the outside have been required by the commission's staff in analyzing the figures for a rate case." * * *

"Another company which operates the largest electrical properties in the state, and which also operates, through associates, some gas properties, has had for years a well-organized statistical department. The result is clearly shown in the presentation of cases before the commission. When a case comes up it is the function of the statistical department of the company to make a study of relevant statistics and to compile and present these in such form that their bearing upon the case is clear and unmistakable. The result is that hardly a case involving the affairs of this company requires more than two or three hours for presentation to the commission and after its presentation a few days suffice for the work of the commission." * * *

What Happens When Statistics Are Lacking

It can readily be appreciated that companies which do not have such statistical data prepared are bound to be on doubtful ground in the presentation of their cases and are almost certain to experience greater delays in having their cases disposed of than is the company which has its statistical data fully prepared and analyzed.

As has been stated before, your committee feels that the work this year in connection with this extremely broad subject was only started, that in reality the surface was only scratched, and therefore strongly recommends that a committee be appointed next year to continue this work, developing some of the thoughts brought out in this report and extending their studies to meet a fast-growing demand from public utility management, the public, public service commissions, investment bankers and others directly and indirectly interested in the welfare of the gas industry.

*Report of Water Gas Committee

(Carburetted and Uncarburetted)

Operators', builders and uncarburetted gas

J. S. Kennedy

Consolidated Gas Company of New York

HERETOFORE, in our association work, there has been no organization activity concerned with the problems of water gas manufacture, notwithstanding that water gas constitutes more than 62 per cent of the gas made in the United States. Recognizing this, the Managing Committee of the Technical Section, when planning the year's work, decided to form a Water Gas Committee which would function in the interest of water gas much in the same manner that the Carbonization Committee functions with respect to coal gas.

Your committee has divided its work into three sections, viz.: Operators', Uncarburetted Water Gas and Builders' Section.

The Operators' Section has reported some recent developments in the operation of carburetted water gas sets. It is believed the selection of subjects and information presented is at present of special interest to our water gas membership. In addition there is submitted a set of record forms which have been prepared to meet the requirements of the smaller plants or to guide them as to the data required for the purpose of keeping a check on plant operations and results.

The Uncarburetted Water Gas Section deals with the manufacture and use of blue gas for mixture with natural gas supplied to the public and for heating coke ovens.

In the Builders' Section are presented current developments in the construction of water gas sets, appurtenances and automatic controls, as well as some interesting contributions by operating companies on special equipment and devices.

I desire to express my grateful acknowledgment of the work done by the members of the committee and their earnest co-operation. All of this work and the attendance at meetings was done in a fine spirit of service and in many cases involved a considerable sacrifice of personal time.

(This report, which is very voluminous, 142 pages in all, is considerably abridged. The entire report can be obtained from the American Gas Association.)

Report of the Operators' Section

Back run gas, use of soft coal as generator fuel, etc.

O. B. Evans

The United Gas Improvement Co., Philadelphia, Pa.

The aim of the Operators' Section of the Committee on Water Gas has been to present to the association such information as could be obtained concerning recent developments in the art of water gas manufacture. The committee felt that it should restrict its activities to developments which had been sufficiently advanced to warrant serious consideration, but did not feel justified in including untried processes. The reports following have been presented, therefore, with this thought in mind. While the authors' names are given, the work was not individual, but was carried on by various sub-commit-

*To be read at the meeting of the Technical Section, A. G. A., Atlantic City Convention, Tuesday, October 14, 1924.

tees; so every member of the committee, whether his name appears or not, has had his share in the working out of the report.

The report on soft coal operation has been prepared and edited by men who are thoroughly familiar with the subject and a careful study of the points therein brought out will be of material assistance, not only to those who are now using soft coal, but also to those who are contemplating its use.

Back Run Process

While the Back-Run process has been in use for some time past, the committee has been able to obtain for publication but very few operating figures. It was thought advisable, therefore, to show the maximum possible theoretical saving which could be expected under ideal conditions.

The empty carburetter system was developed some years ago for the utilization of high coke oils. It has since been extended to the use of ordinary gas oil. The report gives the results obtained by those plants which have been using it.

A different method for using heavy oil has been developed at the Fall River plant. While the results given concerning the operation of this plant are not detailed nor over as long a period as might be desired, the report has been presented with the hope that additional information would be available at the time of the meeting and that some interesting discussion would result.

The mechanical handling of generator fires has long been a subject of great interest. While the committee knows of no successful installation in this country, it is aware of the fact that much experimental work is being done. The report is valuable in showing the earlier work and the difficulties which have been encountered.

Use of Exhaust Steam

Exhaust steam is being utilized to a greater extent each year in the manufacture of water gas. One of the chief difficulties incident to its successful use has been the irregularity of supply and demand. One gas plant in the country has installed apparatus for taking care of this irregularity, which is described in the report.

The report of the committee on refractories describes a new design and application of refractories which, where tried, has shown encouraging results.

Standard forms have been prepared after considerable thought and discussion and the committee believe that they will prove of value to those companies which at present do not regularly keep such records.

Report of the Sub-Committee on Use of Bituminous Coal as Water Gas Fuel

Francis E. Drake

Lynn, Mass.

Introduction

Pursuant to the request of the Water Gas Committee to edit a chapter on "The Use of Bituminous Coal as Water Gas Fuel," the following articles are submitted along with a Bibliography. The articles have been divided into sections: first, a theoretical discussion by Mr. Odell of the Bureau of Mines, Washington; second, a descriptive article by Mr. Murdock of Joliet, Illinois, giving results of actual experiments and his conclusions as drawn therefrom; third, an article by Mr. H. K. Seeley on the experience of the United Gas Improvement Company; and fourth, a compilation of reports as submitted by various companies.

There are certain general features peculiar to every test, and certain conclusions drawn by each company which appear to be similar. For convenience these have been grouped in a summary immediately following this introduction. They do not represent an attempt to lay down hard and fast rules for operating, but only to form a starting point for those interested in the subject.

The Bibliography at the end of this report gives, so far as we could find, a complete list of publications on the subject.

Summary

Blast—Where high blast pressures have been used for coke (or anthracite) a lower blast pressure must be used with bituminous coal than is usual with coke.

Steam and Cycle—No material changes need be made in steam input or cycle.

Size of Coal—All fines should be eliminated to obtain best results. Two in. to four in. lumps should be the average size. Handling of coal should be minimized to avoid breakage. One plant, however, reports the successful use of pea coal and other fines.

Results: Capacity—A reduction in capacity may be looked for unless the blow run is used, or only a low percentage of coal is used. This seems to hold true for sets larger than 8 ft. 6 in. in diameter. The smaller sets seem to operate without appreciable reduction in capacity.

Oil—No materially different results, although in some instances slight decreases are noted.

Oil Efficiencies—No material changes, although slight increases are noted in some instances.

Steam—Slightly increased steam per M. may be expected.

Blow Run—The use of the blow run practically eliminates the smoke from the coal, but the period of blow run must be watched and gravity of gas not allowed to go too high. The blow run reduces the fuel per M., increases capacity, but takes slightly increased oil per M. to offset lower B.t.u. blue gas. One plant reports burning the smoke under a boiler setting, thus eliminating the smoke.

Checkerless Carburetter—In some instances the checkerless carburetter has been adopted to good advantage. This prevents the rapid lowering of efficiencies due to clogging of checker brick and permits hoeing out, from bottom of carburetter, all fines blown over from the generator.

Back Run—One plant reports increased results by the use of the so-called "backrun" process.

Waste Heat Boiler—When the blow run system is used the addition of a waste heat boiler to a plant using bituminous coal, while not necessary on small sets, will still net appreciable savings if operated over long periods. Where larger sets are used, even in conjunction with the blow run, the use of a boiler is more desirable. When the blow run is not used a waste heat boiler is almost necessary for the prevention of smoke and utilization of the combustible blast gases leaving the superheater.

Clinkering—A considerable reduction in clinker trouble may be looked for with bituminous coal.

Tar—The amount of tar increases materially and is heavier. If sets are run intermittently all valves should be watched for sticking. Some operators pour oil into the valves for this purpose.

Theoretical Discussion of the Use of Bituminous Coal in the Manufacture of Water Gas

W. W. Odell, Washington, D. C.

(Omitted for want of space.)

Practical Application of Use of Bituminous Coal as Generator Fuel by the Coal Products Manufacturing Company

W. J. Murdock, Joliet, Illinois

(Omitted for want of space.)

Use of Bituminous Coal as Generator Fuel in Plants of the United Gas Improvement Co.*

H. K. Seeley, Philadelphia, Pa.

(Omitted for want of space.)

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*See U. G. I. Circle, February, 1924.

REPORTS OF TESTS BY DIFFERENT GAS COMPANIES

Report of Consolidated Gas Co. of New York, New York, N. Y., Submitted by O. H. Smith

(Omitted for want of space.)

Report of Charles H. Tenney & Co., Boston, Mass. (Bristol & Plainville Electric Co.), Submitted by L. J. William Chemical Engineer

(Omitted for want of space).

Report of Lynn Gas & Electric Co., Lynn, Mass., Submitted by R. B. Buxton, Chief Chemist

(Omitted for want of space).

Report of Union Gas & Electric Co. (April 15, 1924), Bloomington, Ill., Submitted by R. E. Chew, General Manager

(Omitted for want of space).

Report of The Public Service Co. of Northern Illinois, Chicago, Ill., Submitted by A. McIntyre, Supt. of Gas Production.

(Omitted for want of space.)

Report of Illinois Power & Light Corp., Champaign, Ill., Submitted by E. K. Demlow, Gas Supt.

(Omitted for want of space.)

Report of Tide Water Power Co., Wilmington, N. C., Submitted by Thomas Rice, Supt. Gas Department

(Omitted for want of space.)

Report of the Young-Whitwell Backrun Gas Process Using Bituminous and Sub-bituminous Coals as Generator Fuel in the Pacific Northwest, Tacoma, Washington, Submitted by George E. Whitwell

(Omitted for want of space.)

Report of Puget Sound Gas Company on Plant Operation, March 21 to April 1, 1924, Inclusive

(Omitted for want of space.)

Statement of Conclusions Drawn from Experience of the Young-Whitwell Process in Everett

(Omitted for want of space.)

"Back Run" Method of operation

The advantages of the process

O. H. Smith

Consolidated Gas Company of New York, N. Y.

THE modification of the regular method of operating a water gas set known as the "Back Run" has created considerable interest during the past year. Briefly described the method of operation consists in passing down the run steam through the superheater and carburetter before entering the top of the generator. The blue gas leaving the bottom of the generator passes to the wash box by a separate or "BaBck Run" connection. The up run is made in the regular way. Oil for enrichment is admitted only during the up run.

Many plants are now using the "Back Run" method of operation and in some cases the operation has been in use long enough to determine definite results. The published results, however, are in some cases confusing as to the savings accomplished.

There is a general agreement as to reduction of generator fuel, some more than others. In some cases increased capacity and improvement of oil efficiency are reported. In others there is a slight loss of oil efficiency.

Increased Efficiency

It may be of interest to consider how increased efficiency is effected by this method of operation and to show by a calculation how much is theoretically possible.

It is obvious that in passing the down run steam down through the superheater and up through the carburetted before reaching the generator fire a certain amount of heat, which otherwise would be carried away as sensible heat in the outgoing gas, is restored to the generator fire. The outgoing gas is divided, the up run gas passing out through the superheater and wash box and the down run gas passing directly from the generator to the wash box. Both of these gases leave the set at a temperature lower than in the regular method of operation and there is a substantial saving in the sensible heat which these gases carry away, particularly the down run gas and its included excess steam. Because of the cooling action of the steam the temperature of the outgoing blast products will be less.

	Ordinary Method	Back Run Method
Temperature of blast gases leaving set	1320°F.	1120°F.
Temperature of carburetted gas leaving superheater	1320°F.	1150°F.
Temperature of blue gas leaving base of generator on back run		450°F.
Oil per M	3.00 Gals.	3.00 Gals.
Steam per M	36 lbs.	36 lbs.

Oil gas per gallon = 67.5 cu. ft.
Steam decomposition 22.5 lbs. per M (blue gas)
60% of blue gas made on down run
Down run steam 60% of total

Oil gas made per M = 3 × 67.5 =		202.5 cu. ft.
Blue gas made per M (by difference)		797.5 cu. ft.
		1000.0 cu. ft.
Up run blue gas	= 797.5 × .40 =	319. cu. ft.
Down run blue gas	= 797.5 × .6 =	478.5 cu. ft.

Sensible Heat per M saved during run

Blue gas, up run	= 319 × .0207 B.t.u. per c.f. per deg.) × (1320—1150)	= 1122 B.t.u.
Oil gas	= 3 × 8 lbs./Gal. × .5 (sp. heat) × (1320—1150)	= 2040 "
Excess steam up run	=[(36 × 4) — (.319 × 22.5)] × .5 × (1320—1150)	= 613 "
Excess steam down run	= [(36 × .6) — (. = 478.5 × .0207 × (1320—450)	= 8613 "
Excess steam down run	= [(36 × .6 — (.4785 × 22.5)] × .5 × (1320—450)	= 4715 "
Total reduction of heat losses during run, per M.		17103 "

There is thus a reduction of heat losses during the run and blow and as all of this heat is produced by the combustion of generator fuel during the blow there will be a consequent reduction of generator fuel.

Calculation of Saving in Fuel

The amount of generator fuel which it is theoretically possible to save can be calculated if we know the temperatures of the outgoing gas and blast products and the amounts of steam and oil used. Besides these quantities which can be readily determined or measured it will be necessary to assume other data not so easily determined and which include the volume of oil gas produced per gallon of oil, the amount of steam decomposed, and the proportion of up and down run blue gas made.

Example of Calculation

The following example may serve as an illustration.

Assume the following temperatures and quantities as obtainable in a set operating on "Back Run" and when operated in the ordinary way:

Due to this reduction of heat losses during the running period there will be less heat required to be replaced during the blow. As the blasting efficiency is between 60 and 70%, the combustion of one pound of fuel will store in the apparatus approximately 9000 B.t.u. We should therefore expect a reduction of fuel consumed during the blow of approximately two lbs. per M. This theoretically will result in less air used per M during the blow.

Assuming the efficiency of blasting as between 60 and 70%, a reduction in heat losses of 33,936 B.t.u. per M would indicate a reduction in generator fuel per M. of about 3.75 lbs.

Conditions Maintained

In the above calculations it has been assumed that in each case, that is with and without the back run, the set is so balanced that there will be no escaping unconsumed CO. In some plants with the ordinary method of operation it may not be practical to adjust the running conditions so that there is absolutely no escaping CO. Under such conditions it is evident that a reduction in the heat required to be supplied to the carburetter and superheater will not effect a corresponding reduction in the generator fuel, because if this excess heat cannot economically be utilized it will go to waste. In the normal operation of a standard set the adjustments are such that when the proper amount of heat has been stored in the generator fire, there has been stored at the same time the requisite amount of heat in the fixing vessels. When changing from the ordinary method to the back run, if the blasting conditions are unchanged, there will be more heat stored in the carburetter and superheater at the end of the blow than necessary for the fixing of the gas. A readjustment of the blasting conditions must therefore be made so as to reduce the amount of heat delivered to the carburetter and superheater without decreasing the amount stored in the fire. The difficulty of attaining this last condition in some instances may explain the practical departure in generator fuel saving from the theoretical.

Use of Waste Heat Boiler

If a waste heat boiler is used it is obvious that while there is a saving in generator fuel due to back run operation, there will be less steam generated by the boiler. The reduction in steam generation if both blast and gas are passed through the boiler will be about 17 lbs. steam per M based on the boiler efficiency being about 50%. If blast gas only is passed through the boiler the efficiency may be rated at about 70% and in this case the 16,833 B.t.u. saved during the blow will reduce the steam generated by about 12 lbs. per M.

Heat Lost in Blast Gases—Regular Operation

Assuming 2200 cu. ft. air used per M. including generator and carburetter
2200 cu. ft. × .0025 (B.t.u. per c.f. per degree) × 1320 = 65340 B.t.u.

If, due to the reduction of heat losses during the run, 2 lbs. less fuel per M. is consumed on the blow, then approximately 1925 cu. ft. of air per M. would be required

Heat Lost in Blast Gases—Backrun

1925 cu. ft. × .0225 × 1120 = 48507

This shows a reduction of the heat losses during the blow of 16833 B.t.u Per M.

The total amount saved would be 17103 + 16833 = 33936 B.t.u.

Report on the Use of the Checkerless Carburetter System

John H. Wolfe, Chairman, Consolidated Gas, Electric Light & Power Co., Baltimore, Md.

(Omitted for want of space.)

Modification of Water Gas Sets for Use of Heavy Fuel Oil

W. D. Stewart, Fall River, Mass.

(Omitted for want of space.)

Cleaning of Generator Fires and Progress Toward Clinker Prevention

J. H. Warnick, Pittsburgh, Pa.

Conclusion

The object of this report is not to recount a series of failures, but to point out the attempts that have been made within the knowledge of the committee to solve this vexing clinker problem. The experiments made show that mechanically rotated grates will, in some cases, remove the ash that reaches the grate, and it is possible to prevent adhesion to the walls of the generator by using a water-cooled jacket, provided the steam generated can be utilized economically.

It would seem as if a generator embracing the combination of a rotating grate in conjunction with a water-cooled jacket would lead to the desired end of the mechanical removal of clinker.

(The remainder of the report is omitted for want of space.)

Steam Accumulators

O. H. Smith, New York, N. Y.
(Omitted for want of space.)

Report of Sub-committee on Refractories

W. M. Russell, Chairman, Boston, Mass.
(Omitted for want of space.)

Standard Forms for Reporting Water Gas Operating Results

Thomas B. Hopper, Washington, D. C.
(Omitted for want of space.)

Report of Uncarburetted Water Gas Section

J. H. Warnick
Pittsburgh, Pa.

THE committee has endeavored to report on the operation of uncarburetted water gas plants where they have been of use in the supply of gas for public utility needs only. It was felt that the installations of individual blue gas plants for industrial needs covers a specialized field of considerable variety, and no attempt has been made to incorporate in this report the operation of plants for industrial fuel gas purposes.

The need for an uncarburetted water gas plant divides itself into two classes generally with respect to supplying a community with its gas needs. In the first case, it is useful in augmenting the failing supply of natural gas. Secondly, blue gas can be used to heat a coke oven plant where the coke oven gas is supplying a community, and more coke oven gas can be released for the needs of the community. This arrangement offers considerable flexibility in the operation of a coke oven plant with reference to gas supply. It also assists in controlling the coke production of the coke oven plant in relation to the coke market. It reduces the necessity for a large investment in coke stocks, in times of sluggish demand, in order to produce gas for the community dependent on it.

Replacing Natural Gas

The problem of replacing a diminishing supply of natural gas with manufactured gas has been solved in California, Indiana, New York and Pennsylvania. Because of the depletion of the natural gas supply at Elmira, N. Y., manufactured gas was substituted two winters ago. Last winter manufactured gas was substituted for natural gas at Ashtabula, Conneaut, Geneva and Jefferson, Ohio. At Louisville, Ky., a carburetted water gas plant of large capacity is now being constructed to meet the demand of the coming winter and thereafter. The supply from West Virginia and Ohio into Indiana is depleted to such an extent that substitution of natural gas by artificial gas has taken place at Muncie, Anderson, Alexandria, Fairmont, Hartford City and Marion. The Indiana towns of Winchester, Union City and Portland have successfully substituted manufactured gas for the natural product.

The question of the kind of gas plant to install is governed entirely by local conditions, involving the investment, marketability of coke and by-products, location of plant near compressing stations, the size of the output and cost of gas making.

The committee could obtain information on only two strictly blue gas plants, installed to meet the general problem of a diminishing supply of natural gas with artificial gas.

Summary

A canvass of the situation has developed the fact that there are very few strictly blue gas plants in operation in this country.

As stated in the beginning of this report, a blue gas plant must be considered as an auxiliary plant, to mix its product with a rich gas, such as natural gas or rich coal gas.

It is obvious that the operating conditions in the plants covered in this report are not comparable, and for that reason no attempt has been made to compare their results.

Blue gas can be used alone or mixed with coke

oven gas in any and all proportions for the heating of coke ovens; producer gas can not.

As an oven fuel blue gas is interchangeable with coke oven gas, B.t.u. for B.t.u., and the change from one gas to another can be made without interruption or without interference in operation. Blue gas oven heating gives the coke oven ability to operate at a uniform rate, insofar as coke and by-products are concerned while producing a variable amount of gas in accordance with city demands.

In supplying a community where the natural gas is diminishing the problem of choosing the right type of gas plant can only be solved by answering local conditions.

(Much of this report has been omitted for want of space.)

Reports Submitted by Manufactures of Water Gas Apparatus

Constructive developments contributed by operating companies

H. L. Underhill

Baltimore, Md.

The Builders' Section of this report had to be omitted for want of space. The subjects of the individual articles in this section follow:

Report on Water Gas Apparatus From The Gas Machinery Company, Cleveland, Ohio
W. E. Steinwedell

Automatic Water Gas Control
(Patented June 10, 1924) Built by the Gas Machinery Company, Cleveland, Ohio
W. E. Steinwedell

Report on Water Gas Apparatus Developments From the Western Gas Construction Co.
T. W. Stone, Fort Wayne, Indiana

The Western Automatic Control for Water Gas Sets

Built by The Western Gas Construction Company, Fort Wayne, Ind.

Report of The U. G. I. Contracting Company, Philadelphia, Pa.
C. J. O'Donnell

Report of The Bartlett Hayward Company, Baltimore, Md.
H. L. Underhill

The Kennedy Automatic Control for Water Gas Sets

Built by The Bartlett Hayward Company, Baltimore, Md.

Constructural Developments Contributed by Operating Companies

The following articles have been contributed to the Builders Section from various operating gas companies

High Speed Conveyor Charging Belt for Charging Williamson Generators at the Nassau Plant of The Brooklyn Union Gas Company, Brooklyn, N. Y.

Special Fire Brick Lining
Thomas B. Hopper, Washington Gas Light Co., Washington, D. C.

Relief Line
Thomas B. Hopper, Washington Gas Light Co., Washington, D. C.

Modifications of Standard Water Gas Sets
Warren D. Stewart, Fall River Gas Works Co., Fall River, Mass.

Muffler for Water Gas Blower Inlets
Robert Lindsay, New Bedford Gas & Edison Light Co., New Bedford, Mass.

Report of Lynn Gas and Electric Company, Lynn, Massachusetts
Francis E. Drake

The Budget

Report of 1924 committee

R. H. Patterson

Rochester Gas and Electric Corporation, Rochester, N. Y.

YOUR Committee on Budgetary Control submitted a report at the convention held at Atlantic City in October of last year, in which were embodied the essential principles of this subject and typical procedures and forms used in the operation of a budget system. It was not deemed necessary or advisable to pursue that branch of the subject further this year, but rather endeavor in this report to point out and emphasize the benefits to be derived from a carefully planned and regulated budget system.

It was, therefore, determined to obtain (1) a practical illustration of the results effected through the operation of budgetary control in the management of properties, and (2) the views of executives who use this vehicle in administering their properties.

With these objects in view, a sub-committee consisting of Messrs. George E. McKana and William Wurth have prepared for this report a statement of the gratifying results and efficiency realized through the use of an expense and cash budget in the Peoples Gas Light and Coke Company. Embodied therein is a detailed list of the items entering into the plan used.

An engineer's viewpoint of budgetary control in all its phases is discussed by Mr. Frank L. Conrad, of the William G. Woolfolk organization of Chicago. He used as a basis the report of your committee submitted last year and elaborated thereon from his wide experience in the use of a budget.

An administrative officer's viewpoint is included over the signature of Mr. J. T. Hutchins, vice-president of the United Gas Improvement Company. He suggests many points of interest, but particularly that the budget is an instrument for maintaining the credit of the enterprise, as through it the requirements of new capital are ascertained. He advocates a five-year forecast as an intelligent means of making up the yearly budgets. The additional yearly interest burden, companies, which do not maintain their credit, sustain, when issues of securities are floated at adverse rates, is frequently traceable to lack of adequate forecasts, it is pointed out.

Necessity for the Preparation of Budgets

The importance of the budget discussed by an operating man

J. T. Hutchins

Vice-President of The United Gas Improvement Company

THE ever-increasing growth of the gas business, requiring annually vast sums of new capital, makes it necessary that the gas companies' credit be maintained. To maintain credit it is necessary that the individual or company pay its bills promptly when due, and have a reasonable cash surplus on hand. With the demands for new capital by seasoned and well understood industries, not only must the company securing capital have a good past record of earnings, but it should be able to show a comprehensive plan from an engineering, operating and financial point of view for the future. In order that the gas company may maintain its reputation and record, as above outlined, it is necessary that the management of the company have a complete budget system. This should consist of:

An Operating Budget.

A Construction or Investment Budget, and

A Cash Budget.

In addition to the above, there should be in the hands of the manager a comprehensive forecast for the future, covering at least five years, and after the budgets and forecasts, as outlined above, have been made up they should not be put away in the vault and forgotten, but made use of as a check against the actual operations and conditions as they arise in the period covered.

Operating Budget

This budget should deal with operating costs. The process of making up this budget should start with the Sales Department, who should be asked to make up an estimate of the amount of gas which they

*To be presented before the meeting of the Accounting Section, A. G. A., Atlantic City convention, Tuesday, October 14, 1924.

believe can be sold in the period at the rates then in effect. With this information at hand, the Operating Department should then estimate the cost of supplying the gas for these sales, together with an estimate of the cost of any new construction required for additional capacity to take care of same. The Auditing Department, having received the operating estimates together with the requirements of new capital for additional plant capacity, will then make up a complete operating budget including both the operating expenses and fixed charges—together with a satisfactory return upon the stock of the company.

Construction or Investment Budget

This budget should be made up after the Operating Budget has been completed and should include in addition to the requirements of capital for the payment of increased capacity, an estimate of the cost of such changes in apparatus as may be warranted by their economic saving. In addition to the above, there should be included an estimate of the time when various projects will be finished and the dates at which payment for the same must be met.

Cash Budget

With the previous budgets in hand, the Auditing Department, knowing the dates at which capital will be required not only for payment of the cost of new construction, but for bond interest, taxes and dividends, should make up the Cash Budget on the basis of the cash required each month throughout the year.

Five-Year Forecast

It is practically impossible to make up an intelligent budget for one year under the three heads, above outlined, unless there is available a carefully prepared forecast, showing the expected earnings, possibilities of new business and the new capital requirements for a period of at least five years. Unless the operating engineers have available this information, it is not possible for them to plan wisely their construction program for the shorter period.

The building and erection of new apparatus without thought for a longer period than the immediate requirements has probably cost our industry more than any other mistake made.

After these complete budgets have been made up to obtain the best results copies of same should be in the hands of the New Business Department, the Operating Engineering Department, the Auditing Department and the Treasury Department, so that all of these departments will have a thorough understanding of the future plans of the company which will act as an inspiration and spur to the New Business Department. It will bring home to the Operating Department the fact that operating costs are but a part of the toal expense of doing business, and, in addition, will draw to the attention of that department that unless a new method or piece of apparatus will reduce the operating expenses sufficiently to pay the added fixed charges on the cost of the new improvement, as against operating expenses alone on the old method, there has been no gain and an added risk of loss due to the greater investment of capital which has been incurred.

We operating men are too apt to become obsessed with a possible reduction in the cost per M of operating without due consideration to the added fixed charges which the new process entails.

In addition to the advantages already outlined, the budget system enables the management to forestall financial difficulties due to increasing costs of production, and to prepare the customers and the regulating authorities so that when it becomes necessary to apply for increased rates they will appreciate the necessity therefor.

Delay in getting the necessary relief when there is a necessity for increased earnings, requiring an advance in the rate charged, is very disastrous, both to the company and its customers. Unless the company's credit is maintained on a high plane at all times, it is practically impossible to obtain additional capital required to furnish service to all who desire it and make improvements and changes in apparatus which are required by improvements in the art or changes in supply conditions.

We see every day in the quotations on securities sold a variation of 1 per cent or more in the cost of the money obtained through these sales, due absolutely to the difference in the financial conditions of the companies in question. As the issuance of these securities generally provides for the financing of a long period, the gas consumers of the community where the company has been obliged to pay the higher rate have to carry the burden. It is, therefore, as much to the interest of the gas consumer as to the stockholder that the company maintain its reputation as a successful business concern and is in a position to pay its dividends on its stock regularly, and I believe there is nothing which will do more to enable the management to maintain this condition than a satisfactory budget system and the maintenance of five-year forecasts continuously.

Budgetary Control

The construction, operating and cash budgets--How they are made up

Frank L. Conrad, Chicago, Ill.

ACCURACY in the highest degree consistent with the best facts ascertainable at the time of preparing is the foundation upon which a successful budget system must be based. This basis can only be realized through a complete coordination of effort on the part of all individuals concerned. The engineering operation of the budget should be a visualization of the engineer's plans and ideas at the time of its preparation. As the controlling conditions change or improvement in design recommend, there should be no hesitancy in preparing a revision of estimates in the light of new data, as it must be recognized that an engineer's judgment, based on prevailing conditions, may change entirely within a short period, due to unforeseen changes in the conditions to which his assumptions were necessarily referred. It should be further recognized that a budget, to be successfully used from the standpoint of engineering operations, must be flexible to the extent that emergency construction and operating procedure can be undertaken without the handicaps and delays incident to voluminous paper work and executive "red tape." A system unable to withstand the shocks of emergencies encountered is limited in value and should be reconstructed.

It should be unnecessary to refer to the practice prevalent when the budget was first introduced to operating organizations, of padding estimates in an effort to show substantial savings at the end of the budget period. This not only defeats the purpose of the budget, but clearly shows an inability to grasp the principles upon which the system was conceived.

Co-operation Desirable

The engineers should receive close co-operation from the Cost Department in order that they may have promptly beforehand at regular intervals a comparison between the budget estimate and the actual cost experienced to date, principally where work is partially completed. Any differences between the anticipated and actual expenditures should be thoroughly investigated and explained. Where such conditions are found to be caused by increasing prices the individual in charge of the cash budget should be promptly notified so that corresponding revisions may be made therein to take care of the balance of the construction work.

In referring to a budget system, the tendency to speak in terms of dollars of earnings and expenses only, is erroneous from an engineering standpoint and tends to limit its proper consideration by those concerned. A budget is a plan for the operation and extension of the company, in all of its phases, and as such implies the forecasting of requirements of labor, material and money. To the engineer this broader view is important, emphasizing as it does the necessity for complete development of plans in advance of the actual requirement.

In order to accomplish this result it cannot be too strongly urged that the budget be prepared only after an exhaustive discussion in conference of plans and projects by representatives of all departments concerned in the execution or operation of the proposed developments.

Maintenance Budget Advisable

A systematic maintenance program for a five-year period is of great value, in that it is possible by intensive study of the company's needs to so control maintenance expenditures that the annual expense for this purpose may be uniformly consistent.

The budget when properly prepared is an excellent instrument of executive control through its periodic comparison with actual expenditures and progress, and as such has a very direct interest to the engineer. In addition to the control feature necessitating rigid supervision of work in progress, it presents the opportunity for the engineer to benefit in the revision of his estimates and cost data, thus insuring increasing accuracy in the preparation of future budgets.

A few suggestions from an engineering standpoint have been made below in connection with the specific subdivisions of the budget.

Construction Budget

In addition to the objects of the construction budget as defined in the committee's report, it is believed that the construction budget should function as an engineer's report upon the necessity and adequacy of the proposed extensions or construction work. It should not consist of a statement of generalities or too brief a report of assumptions and data upon which the recommendations are made; but rather should include a carefully prepared survey of pertinent facts influencing the decision, worked out to its definite conclusion. As detailed an estimate of cost should be included as is consistent with the character of the work involved and the basic data. It is considered essential that the construction budget carry with it the approval of the engineers, both as to the necessity and the cost of the construction projects proposed. It is very helpful to the engineers and frequently the means of saving considerable time and effort in making recommendations to

have a statement from the management of the preliminary policy which will govern the preparation of estimates for the budget period. This is generally possible through the preliminary interchange of ideas between the management, as to policy, and the engineers and department heads, as to the probable effects of this policy, before the compilation of the detailed budget.

Value of the Construction Budget

It is believed that the value of any construction budget will be in direct proportion to the accuracy with which the budget estimates are compiled. When it is considered that commitment to a project is determined only after a balancing of the cost of an extension against the revenue to be derived, the engineer cannot fail to realize the importance of accurate estimates and he should make every endeavor to obtain a careful and well considered result.

Detailed drawings, if the plans have progressed that far, or lacking them, the most definite information available should form the basis for the budget estimates. Estimates for subdivisions of the budget, for special accounts or work orders, should always be based upon detailed drawings and specifications. While it is highly desirable that the engineers in charge of design should be consulted in the preparation of construction budgets, it is, nevertheless, mandatory that the engineer who will supervise the construction work be charged with the direct responsibility of compiling the budget for that portion of the work.

Cost Data Should Be Available

Engineers of operating companies are, in general, somewhat handicapped in preparing estimates by the inaccurate and reliable character of the cost data which results from incomplete analysis and infrequent use. Preparation of data in units of material quantities and man-hours of labor, so arranged as to allow the compilation of unit costs at any time, accurately reflecting prevailing material costs and labor rates, will facilitate the revision of budgets from time to time as the management or changing conditions require. Possession of unit costs accurately compiled in this manner will be of assistance in the administrative or control feature of the budget and provide a basis for checking costs during the progress of construction work. The engineer is thus in a position to observe the differences between the budget estimate and the actual costs. By this intimate supervision serious discrepancies are readily apparent, affording an opportunity for such revision of program as may be necessary successfully to complete the work.

The construction budget in a broad sense should not be considered in terms of cash or contract expenditures exclusively; it refers just as specifically to the preparation of plans for the employment of labor, and the purchase and delivery of material and equipment. Proper co-operation of the management to secure the co-ordination of the purchasing, stores, and employment departments must exist if the benefits of the system are to be realized to the fullest extent.

Operating Budget

The usefulness of the operating budget is entirely controlled by the care and accuracy with which the estimate of consumption for the budget period is prepared. Consumption estimates are made by the New Business Department, and should be prepared only after consultation with the engineers has shown the location and extent of additions to the distribution system which will be made during the budget period. Inquiry should also be made of the operating department to satisfy all doubt as to the adequacy of the plant and distribution system to meet the forecasted demands of service.

In no other phase of the budget is the accuracy of the basic cost of data of such paramount importance as in preparing the estimate of operating expenses. Because of the repeating nature of the items, it is evident that extreme care and diligence should be employed in the selection of the proper unit costs. It should be recognized that the production costs are based upon the volume of gas manufactured or purchased. The consumption figures furnished by the New Business Department, therefore, must be increased by the amount of "gas-unaccounted for" and any other revisions in operating cost necessitated by increased consumption in order to arrive at the proper basis for computation of unit production costs.

In the preparation of this section of the budget it is especially desirable that all individuals immediately concerned with the expenditure of the company's capital, either in cash, labor or material, be consulted with reference to their particular items of expense. That this will instil a spirit of responsibility for operating results in an organization is very evident when executive control is exercised through the monthly comparison of the budget with the actual expenses. In following up the estimates, it is desirable that every individual assisting in the preparation of the budget be supplied with a comparison of his estimate with the actual expenses. This procedure will not only tend to reduce operating costs, but will increase the accuracy of future estimates.

Materials and Supplies Budget

The engineer's chief interest in the materials and supplies budget is in connection with the proper scheduling of material required for construction work and routine operation. For this reason his

stores departments can insure delivery by the required time. Unless this is done costly delays in construction work and interrupted service may result. In addition to the use of the budget as a schedule of purchases, the opportunity is also offered to standardize the items of material and equipment used by the company. Contact should be had with the purchasing and stores departments and an effort made to reduce the number of items requisitioned to a minimum.

In the preparation of this section of the budget as in all others, co-ordination of effort between the departments and individuals charged with its preparation is essential if systematic planning in advance of requirements is to be successful.

Cash Budget

As a part of a complete budget system of control, the requirements for proper provision in the cash budget is most important, in order that the plan functions satisfactorily as a whole. The failure of making proper provision for cash when and as required interferes with and may destroy the functioning of the entire budget.

The cash budget is the most important of budget provisions and its value will be recognized by all executives required by their office to negotiate for moneys to meet obligations and for the issuance of securities for financing in advance of construction. If this section of the budget is operated properly, many dollars in new money can be saved by taking advantage of opportunities which may arise in the financial markets.

Conclusions

In conclusion, particular emphasis is directed to the fact that a budget is a plan for the operation and extension of the company in all its phases and in order to accomplish its purpose it is absolutely necessary that the budget be prepared only after complete discussion in conference by representatives of all departments concerned. Through these conferences heads of all departments become familiar with the company's operating policies and through this familiarity competition is instilled between the various departments, with the result that savings are made in both operation and construction.

The budget if properly prepared is an excellent power of control of construction expenditures and progress and as such is of direct interest to the engineer. Through its period comparison with actual expenditures the budget guides the executive to the weak points in the operating and construction personnel.

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*REPORT ON PRACTICAL OPERATION OF EXPENSE AND CASH BUDGETS

G. E. McKana and Wm. Wurth, Chicago, Ill.

(This report on the practical operation of the budget system is not published here for want of space.—Edit.)

FIXED CAPITAL ACCOUNTING RECORDS IN RELATION TO THE CONSTRUCTION BUDGET

J. T. Wycoff, Boston, Mass.

(Due to lack of space, this section of the report has been omitted.—Edit.)

MAN WHO PLANNED THE MODERN GAS KITCHEN AUTHOR OF NEW FREEDOM FOR WOMANKIND

No More Dirt and Drudgery, Smoke and Soot, Ashes and Agony—It's Woman's Emancipator and Divorce Court Antidote

There have been emancipators and emancipators in the history of the world—men who have led oppressed peoples into the joys and comforts of a new freedom. But there is a new emancipator—a Twentieth Century one—and it is woman's emancipator. It is GAS!

A step from the old wood-fire kitchen into a modern gas "cooking room" is like getting out of jail into the brightest of sun-parlors.

With the growing use of gas in the homes of today the housewives are realizing more fully every day the new freedom that is theirs. Gone are the dirt and drudgery, the smoke and soot, ashes and agony of the old days. And not only is work in the gas kitchen made more pleasant, but the time consumed is far less. The woman who uses gas has far more time for other duties or pleasures than her sister who is not so fortunate.

The gas kitchen, too, engenders a pride in her domain which the woman of the old-time drudge factory never knew. That pride is the foundation of the spirit and desire for home-making—her own home. And, according to Maria Thompson Davies, it is the duty of every woman to make a home for herself.

"No happiness can be found in a mutual gas stove, mutual icebox, and an instalment plan Persian rug," says Miss Davies. "Every true woman, married or single, has that true instinct born in her, but making a home for herself does not mean camping out in an apartment with two or three other girls, or even one other girl.

"It makes no difference if a girl has only one room, she should have it to herself. She can have her gas stove behind a screen, her cot behind another and her reception room in the center. Landlords would soon learn to build one-room affairs if young women insisted.

"Food plays a royal role in a girl's life, whether she marries or not. A bachelor girl who can set good food before her friends can work miracles.

"And concerning the married woman, just let her make a Grade 'A' pie for dinner and then see if divorce courts look as interesting as they did when she fed him on pie from the delicatessen."